

# **DISTRIBUTION, TECHNOLOGY AND EMPLOYMENT :**

**A Study of Metal Utensils in India in the Basic Needs Framework**

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5.5 Changes in Metal Composition of Demand	109
5.6 Redistribution, Technology and Employment	111
5.7 Total and Net Effects of Redistri- bution	115

VI CONCLUSION	121
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#### Annexures

1. Metal Base of Different Utensils	132
2. Types of Utensils as Named Locally by Their Close Proximity with Commonly Recognised Utensils and/or by Their Uses	134
3(R) Distribution of Aggregate Consumption Expen- diture by Semi-decile Groups of Population (Rural)	135
3(U) Distribution of Aggregate Consumption Expen- diture by Semi-decile Groups of Population (Urban)	136
4. Engel Function Estimates	137

#### List of Tables

1.1 Distribution of Sample Households by Expenditure Classes	13
1.2 Distribution of Households by Per Capita Total Expenditure Classes as Worked Out by the National Sample Survey Organisation	15
2.1 Value of Current Stock of Metal and Non-Metal Utensils Per Household	26
2.2 Per Household Value of Current Stock of Regularly Used Metal Utensils	29
2.3 Per Household Possession of Regularly Used Stock of Metal Utensils (Rural)	31



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## CONTENTS

I	INTRODUCTION		1
	1.1 Statement of the Problem	1	
	1.2 Basic Need Approach	6	
	1.3 Present Study	10	
II	STRUCTURE OF CONSUMPTION OF METAL UTENSILS		19
	2.1 Commodity Characteristics	19	
	2.2 Use Categories of Utensils	24	
	2.3 Household Stock of Utensils	25	
	2.4 Stock of Metal Utensils by Use Category	28	
	2.5 Stock of Utensils by Metal Category	36	
	2.6 Current Purchases	42	
	2.7 Some Correlates of Current Demand for Metal Utensils	47	
III	BASIC NEEDS AND METAL UTENSILS		56
	3.1 Metal Utensils as a Basic Need Category	56	
	3.2 Identification of "Basic Need" Components of Metal Utensils	59	
	3.3 Some Test for Validity of our Estimates	65	
IV	SUPPLY CONDITIONS, TECHNOLOGY AND MARKETING		69
	4.1 Categories Used for Technological Variations	69	
	4.2 Products, Materials and Equipment	71	
	4.3 Processes of Production	73	
	4.4 Economic of Production	75	
	4.5 Employment and Capital Intensity	77	
	4.6 Production and Price Trends	81	
	4.7 Marketing Channels and Rural Price Differences	85	
V	IMPACT OF INCOME DISTRIBUTION		92
	5.1 Approach and Assumptions	92	
	5.2 The Simulation Model	95	
	5.3 Patterns of Income With and Without Redistribution	99	
	5.4 Redistribution and the Magnitude of Demand for Metal Utensils	105	

2.3 (U) Per Household Possession of Regularly Used Stock of Metal Utensils (Urban)	32
2.4 (R) Value of Current Stock of Utensils by Metal Category	39
2.4 (U) Value of Current Stock of Utensils by Metal Category	40
2.5 (R) Per Household Current Annual Purchase of Metal Utensils (Rural)	43
2.5 (U) Per Household Current Annual Purchase of Metal Utensils (Urban)	44
2.6 (R) Current Demand for Metal Utensils in Relation to Household Characteristics (Rural)	49
2.6 (U) Current Demand for Metal Utensils in Relation to Household Characteristics (Urban)	50
2.7 Association Among Selected Indicators of Household Characteristics and Current Demand of Metal Utensils	51-52
3.1 Percentage Distribution of Sample Population by Per Capita Total Expenditure Classes	61
3.2 Characteristics of Basic Need Composition of Metal Utensils	63
4.1 Average Size and Profitability of Sample Metal Utensil Manufacturing Units	76
4.2 Technical Ratios in Metal Utensil Manufacturing	79
4.3 Retail Price (Per Kg.) of Metal Utensils (1965 & 1980)	83
4.4 Effective Purchase Cost of Retailer Per Rs.100 Worth of Utensils at Manufacturers Sales Price (including Excise and Sales Taxes)	89
5.1 (R) Observed and Post-redistribution Percentages of Population by Expenditure Classes (Rural)	101
5.1 (U) Observed and Post-redistribution Percentages of Population by Expenditure Classes (Urban)	102
5.2 (R) Aggregative Characteristics of Observed vis-a-vis Simulated Distributions (Rural)	103

5.2 (U) Aggregative Characteristics of Observed vis-a-vis Simulated Distribution (Urban)	104
5.3 (R) Changes in Demand Profile Due to Redistribution With Growth (Rural)	106
5.3 (U) Changes in Demand Profile Due to Redistribution With Growth (Urban)	107
5.4 Changes in Metal Composition of the Current Demand of Metal Utensils Due to Redistribution With Growth	110
5.5 (R) Changes in Technology and Employment Potential in Metal Utensil Sector Due to Redistribution with Growth (Rural)	112
5.5 (U) Changes in Technology and Employment Potential in Metal Utensil Sector Due to Redistribution with Growth (Urban)	113
5.6 (R) Total Income and Net Redistribution Effects of the Income Redistribution (Rural)	116
5.6 (U) Total Income and Net Redistribution Effects of the Income Redistribution (Urban)	117
5.7 Alternative PCE growth Rates for Achieving the Levels Stipulated in the Simulations	119

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## Chapter 1 : Introduction

### 1.1 Statement of the Problem

The recent upsurge of concern with the problem of poverty, income inequality and unemployment has not only received the interest of economists and policy makers in the patterns and determinants of income distribution, but has also led them to examine the impact that income distribution produces on consumption and production patterns, technology and employment. Distribution of income has been a major theme in the theory and policy in economics for a long time. For some time, the attention was mainly focussed on the functional distribution analysing the behaviour and determinants of factor incomes, which also, by and large, was assumed to reflect distribution of income among the different classes. It was, however, recognised later that the issue of inequality of income requires an analysis of personal income distribution in so far as there are wide disparities of incomes not only among classes indicated by the factors of production they own and supply but also within each class.

Distribution of income is an overwhelmingly important issue in itself in so far as equality is conceived as a desirable state of an economy, and inequality a social evil. Therefore, it becomes a major theme of discussion both at the theoretical and policy levels, even independently of any other facets of the

economy with which it may be closely related. Distribution particularly in a private enterprise market economy is, however, a function of the pattern and technology of production, and also, in turn, influences these variables. The issues of income distribution, production, technology and employment thus cannot be adequately analysed independently of each other. Therefore, it becomes necessary that income distribution is analysed both in terms of the impact it produces on the product mix and factor proportions in production and the way these variables influence distribution of income, in turn.

Besides the impact that income distribution produces through the consumption-production-technology-employment nexus, mention may also be made here of certain direct implications of income inequality for poverty and growth. A high degree of income inequality would always be accompanied by high degree of relative poverty in so far as a sizeable portion of population would be relatively deprived of goods and services which the persons in high income groups consume. But inequality can also directly cause absolute poverty to the extent, the major share of income is claimed by a few affluent groups even though the average income levels are quite high. In a situation like that a policy of redistribution per se may be considered good enough for achieving a reasonably high level of income for all. But in a situation where average level of incomes is very low, reduction in equality



may not itself lead to a significant reduction in poverty. A number of developing countries like India, could probably be considered as facing such a situation, where the policy option for reduction of poverty and inequality lies mainly in growth with a production pattern and technology that favours the low income strata of society, and only marginally in direct income re-distribution. On the other hand, it is also often argued that a complete equality of incomes at very low levels of income may not be able to generate surplus for capital accumulation. To that extent, the trade-off between income equality and growth would prove a real one and a choice may be very difficult to make. It is, however, unlikely that a policy of pure redistribution is followed in view of very low levels of incomes in general and compulsions of growth. On a practical plane also, drastic redistribution would not be feasible in a market economy and democratic political set up.

Therefore, it looks that countries like India would have to attack the problem of inequality through a programme of removal of poverty, on the basis of a growth path that generates commodity mix and uses technologies that favour the poor. Since the production pattern and technology are primarily determined by the pattern of demand, in a market economy like that of India, the question of distribution of incremental income would, therefore, be of great importance in ordering a production pattern in

favour of goods consumed by the relatively poorer strata of population. To the extent income distribution is a result of production process and cannot be manipulated independently to any significant extent, given inequalities operate in a way that leads to accentuation of poverty, unemployment and further inequalities. Limited scope for significant redistribution, for various reasons, makes the task of breaking this vicious circle very difficult. Policy intervention is inevitably necessary but it is not easy to see as to at what point in the chain of 'income distribution-consumption-production mix-technology-employment-income distribution' the intervention would be most desirable and effective. Given the pattern of income distribution, intervention at the level of deciding production pattern may prove counter-productive; and development and promotion of technologies that lead to larger employment, may not necessarily lead to their use by producers to the extent alternative less employment intensive technologies meet their efficiency criteria more effectively. A direct intervention on consumption front is, again, not likely to be effective in a market economy. A different pattern of distribution of incremental incomes from the existing one thus seems the only viable and pragmatic way of dealing with the problems of poverty, inequality and unemployment in India. It, however, needs to be examined as to whether such a redistributive path, which itself is contingent upon the emergence of shift in the mix of production and technology will

also lead to a cumulative process of generating increasing demand for goods fulfilling basic needs and efficient but employment-intensive technologies of producing them. Generally it is believed that goods consumed by the poor are produced with the help of technologies which are labour-intensive while production of goods consumed by the non-poor uses capital intensive technologies. Therefore, a redistribution of incomes in favour of the poor would not only increase their purchasing power thus leading to a rise in demand for essential goods, but will also lead to rise in employment, and also as a result, to a further distribution of income in favour of the poor who gain mainly through the augmentation of employment opportunities.

Given the premise that the major objective behind seeking a shift in patterns of income distribution, product-pattern and technology in a developing country like India, is to raise the levels of income and living of the people deprived of the basic needs of life, the first question that needs to be examined is how to order a pattern of incremental income that mainly favours these groups of population, and is generated in the process of producing goods that would be required by them. For one, it is extremely difficult to evolve a production and distribution pattern which exclusively benefits one section of the society, without any 'leakages' taking place in favour of the others. To the extent leakages are inevitable and significant, the desired results of the envisaged 'redistributive' production



pattern get reduced. Further, to the extent the 'redistributive' growth process succeeds in meeting the objectives of bringing the groups marginally below the poverty line to substantially above it, the 'leakages' may be generated in fulfilling the objective itself in so far as the consumption and demand pattern of these groups shifts in favour of non-basic needs goods produced with technologies with lower labour-intensity. A simultaneous emphasis on increased production of goods meeting basic needs and use of technologies generating employment could help reduce the 'leakage' by generating effective demand for the goods with basic needs characteristics in the process of their production itself.

## 1.2 Basic Needs Approach

The above approach would, in the first instance, require identification of the basket of goods that go to fulfill the basic needs. On a normative basis, the private consumption component of basic needs may be defined to include a certain minimum requirements of a family : adequate food, shelter and clothing, as well as certain household equipment and furniture. The contents, style and value of these items would of course differ from country to country and time to time, even though the concept is absolute in nature. The normative approach could also be supplemented by empirical observation of consumption pattern of households in different income strata. It could be hypothesised that the demand for items constituting the basic need will rise linear

in proportion to total household income or expenditure levels, upto the level of fulfillment of basic needs. Empirically, it is also possible to derive the basic needs requirements in relation to a product about which normative criteria are not available, on the basis of the consumption level and pattern of households with income levels that are associated with the fulfillment of basic needs in respect of such other items for which the required norms are available. For example, while it is easier to lay down norms for food consumption in caloric or dietetic terms, than for furniture and household equipment such as utensils. One way to tackle this problem is to adopt the quantity and quality of these items consumed by households which are just at the level of fulfillment of their basic requirements. Whatever approach, normative or empirical, one takes for identifying basic needs, analysis of the implications of income distribution and production aimed at their fulfillment would require examination of the consumption and production aspects of individual commodities constituting basic needs.

Another dimension that needs to be taken into account here relates to the quality and characteristics of the products. Commodities that constitute basic needs are consumed both by poor and non-poor; but their characteristics tend to differ in relation to the class of consumers. The items consumed by relatively higher income groups are believed to have characteristics that are not essential for the fulfillment of basic needs as they may be more

appealing in terms of sophistication, design, finish, etc; are, therefore, produced at higher cost and thus have higher prices, and generally use capital-intensive methods of production. Thus identifying commodities constituting basic need is not sufficient for 'redistributive' production for removal of poverty. The items produced may be the same as identified to constitute basic needs, but the structure of their characteristics may be more suitable for the non-poor which would raise their price to a level which the poor cannot afford; and may also be produced with the help of technology that uses less labour thus reducing the income-earning opportunities for the poor. The distinction between the essential and non-essential characteristics of commodities and the choice of 'appropriate products' thus become important for a strategy of 'redistributive' production aimed at reduction in absolute poverty.

The other important prerequisite of this approach is the assumption that commodities consumed by the poor, which by definition go to make the basket of basic needs, are produced with the help of labour-intensive techniques; and that the production of these goods with bare essential characteristics involves greater use of labour per unit of capital than one with the non-essential characteristics as well. Also, the labour-intensive production turns out to be cheaper and within the reach of the poor. There is no guarantee that these assumptions are universally valid. They need to be verified in different situations in case of each



of the commodity in question. In case the commodities consumed by the poor are technologically best produced by using capital-intensive methods while a number of non-poor consumption goods are more labour-intensive, the relatively closed model envisaged in the basic need fulfillment approach will have to be modified in favour of greater openness; and a larger magnitude of 'leakages' will have to be allowed for. Or, then resort might have to be made to the use of less efficient technologies which would prevent a faster growth of incomes. The question of appropriate technologies becomes relevant in this situation. But 'appropriateness' of a technology is to be seen not only in terms of the maximum use of manpower but also of generating an adequate income for the worker and of production of goods with an efficiency that would lead to a price level which the poor can afford.

Despite these constraints, the approach based on the sequence of relationship among income distribution, consumption, production technology and employment, has much to commend itself in the context of fulfillment of basic needs and removal of poverty in an underdeveloped economy. The starting point of intervention in the nexus of relationships, and the strategy would require to vary according to the economic and institutional context of a country. Further, a disaggregative commodity-wise examination is necessary for determining the production strategy that would best meet the objective, as variations in the commodity characteristics and production technology among different items of basic needs

may not permit a unique solution applicable to the entire group of such commodities.

### 1.3 Present Study

The present study attempts an examination of the inter-relationships between pattern of income distribution, consumption, production technology and employment, in the case of an individual commodity group, namely, metal utensils. Metal utensils do not seem to have attracted as much attention as an item of basic need as food, clothing and shelter. No doubt, metal utensils form a small item in terms of total household consumption expenditure; and in certain regions and low levels of incomes, lower order products such as utensils made of earthen clay are also used to serve the needs of the household. But even in these situations certain functions require use of metal utensils and earthen utensils fail to fulfill certain minimum requirements of durability, ease of handling and cleanliness. Therefore, metal utensils essentially belong to the category of goods which not only serve certain basic needs of a household, but also mainly have the characteristics of minimum essential items of household consumption.

The problem is not so much with the identification of metal utensils as essential item of household consumption representing a component of basic need, as with some peculiarities in the behaviour of change in expenditure of this item in relation

to household income and expenditure levels. Being a consumer durable, the purchase pattern of metal utensils in the short period is, of course, bound to be different from that of current consumption items like food. But while households at low income levels may spend more on this item with rise in incomes for meeting the shortfall in their current requirements, those with higher incomes may also spend proportionately higher amounts for the sake of variety and on items of only casual use. Thus the income elasticity of demand for metal utensils, despite its being an item of basic need, may continue to be high even beyond the fulfillment of basic needs. This peculiarity while on the one hand complicates the analysis to some extent, it also compels us to go into the question of basic and non-basic characteristics of the group of metal utensils in terms of use category, regularity or casualness of use and metal category.

Metal utensils, even though a small item of household consumption in relation to the total expenditure, thus provides an interesting case for examining the various facets of the income distribution-consumption-production technology-employment relationships as outlined earlier. The specific aspects that we have examined in the present study include : (a) an examination of the use pattern, composition and current demand of metal utensils used by the households in different income groups; (b) identification of the relative and absolute importance of the variety of metal utensils in the household budget; (c) an examination of the extent of and constraints on the fulfillment of basic needs under existi



structure of demand, production technology and supply conditions; (d) an analysis of effect of changes in the levels and distribution of income on consumer demand, production technology and employment in metal utensils sector and (e) indication of the options to regulate production technology and supply conditions of metal utensils with a view to augmenting employment potential and fulfillment of basic needs.

In view of the non-availability of any systematic data about consumption, production and marketing of metal utensils, the study uses data collected through primary investigations about rural and urban household consumption pattern, production technology and marketing of metal utensils. The field study for collection of requisite data was carried out in selected rural and urban areas in the State of Uttar Pradesh (India). The rural consumption survey was carried out in five villages (Godhana, Mirzapur, Ahmadpur, Ataria and Manwan) of Sitapur and four villages (Deorai, Kalau, Saramau and Mampura) of Lucknow district. Some of these villages are within the catchment of the Lucknow-Sitapur highway while others are remotely situated. The selection of sample households was done on the basis of probability proportionate to size (PPS), from among agricultural labourers, various categories of farmers identified by landholding size and rural artisans. The urban sample was drawn randomly from the various localities of Lucknow city, by identifying the households by the type and location of their residences. The total size of

the sample was 600 households - rural 400 and urban 200. The number of sample households by expenditure classes are shown in Table 1.1.

Table 1.1

Distribution of Sample Households by Expenditure Classes

Per capita expenditure class Rs/annum	Rural		Urban	
	Number	Percentage	Number	Percentage
Below 350	20	5.00	4	2.00
350-425	32	8.00	-	-
425-500	48	12.00	5	2.50
500-600	60	15.00	6	3.00
600-750	61	15.25	21	10.50
750-950	61	15.25	42	21.00
950-1250	55	13.75	58	29.00
1250-1600	39	9.75	39	19.50
1600-2200	21	5.25	18	9.00
2200 and above	3	0.75	7	3.50
ALL	400	100.00	200	100.00

As indicated earlier, representativeness of the sample with respect to population of selected villages was sought to be

ensured by stratifying the population by land-holding size among the cultivators and treating landless labourers as a separate stratum. The sample was exactly proportional to the size of population in each of the strata. In the urban area, effort was made to ensure a representative sample by spreading the respondent households among different localities known as upper class, middle class and lower class residential areas; by size and type of residential buildings in each locality and also by availability of certain facilities like electric connections and access to the main road.

Despite these precautions, however, it is not possible to vouchsafe for the complete representativeness of the sample. In order to check whether our method of selection has, by and large, resulted into a representative sample, we could have compared it with the structure of population by certain relevant characteristics available from other sources. Unfortunately, no such information was available for the relatively recent period. The only comparable information in respect of expenditure class-wise distribution, of population in rural and urban areas of Uttar Pradesh that we came across was from the Twenty-eighth round of the National Sample Survey for the period 1973-74. Distribution of rural and urban households among the different per capita expenditure classes, adjusted for price rise during 1973-74 to 1979-80 is given in Table 1.2



Table - 1.2

Distribution of Households by Per Capita Total  
Expenditure Classes as worked out by the National  
Sample Survey Organisation

Sl. No.	R U R A L		U R B A N	
	Per Capita* Expenditure Class Rs./annum	Estimated** Percentage of House- holds	Per Capita* Expenditure Class Rs./annum	Estimated** Percentage of House- holds
1.	< 323	8.93	< 337	0.47
2.	323-400	13.89	337-449	1.38
3.	400-522	14.37	449-524	2.19
4.	522-660	17.67	524-636	7.29
5.	660-845	17.67	636-805	16.38
6.	845-1152	13.59	805-1029	18.69
7.	1152-1536	8.25	1029-1404	21.44
8.	1536-2304	3.88	1404-1872	13.73
9.	2304-3072	1.36	1872-2808	11.07
10.	≥ 3072	0.39	2808-3744 ≥ 3744	7.36

\* Adjusted for 1979-80 prices using consumer price inflation factor of 28% for rural and 56% for urban over the year 1973-74.

\*\* As worked out by the National Sample Survey Organisation for 28th round of the report for the year 1973-74 based on the Central Sample.

The PCE classes of the NSS distribution are not exactly the same as used by us. But it can be seen that the 10 classes by which the NSS households are distributed are fairly comparable with our size class. Given the facts that any two independent samples cannot be exactly similar and sample size is relatively small in our case, the significant similarity between two distributions goes to suggest that our sample exhibits a good degree of representativeness in relation to the population.

For collecting information on technology and production conditions interviews were held with 23 metal utensil manufacturing units in Kanpur, Lucknow, Moradabad, Basti and Ghaziabad, engaged in the manufacturing of iron, aluminium, brass, phool and stainless steel utensils respectively. Requisite information about marketing of utensils was collected from wholesalers and retailers in the city of Lucknow as, also from the retailers in the regular and weekly markets of the rural areas along the Lucknow-Sitapur road. The total number of trading units surveyed is 25, including 6 wholesalers. The reference year for data collected was 1979-80.

While every precaution was taken to ensure correctness and reliability of data collected from households and production and sales units, certain points need to be noted in respect of problems faced during the survey. One, we suspect a slight underestimation of the stock of metal utensils with the household

in the rural areas on account of the respondents' hesitation in disclosing the quantum of metal utensils, which sometimes are considered as valuable assets, because of their apprehension that the knowledge in this respect might prompt thefts. Second, one cannot also be very certain about the money value of the stock of metal utensils particularly old ones, some of which could have been purchased long back, or even inherited. It may be pointed out, however, that for the main analysis we have utilised the information relating to utensils in regular use only which are generally of relatively recent acquisition and, therefore, their recorded prices are not likely to be very much different from the actual prices. Third, a number of production units contacted for the collection of data on production technology were small sized and operating on household basis, particularly in the case of brass and phool utensils. These units did not have systematically maintained records of details of their production, and, therefore, the information supplied was primarily based on their memory and experience. The number of workers employed by these units varied practically from day to day depending on the volume of work and the number of process to be handled. In such a situation, the information on average number of workers and man-days is likely to involve certain degree of error. Fourth, the problem of lack of record and therefore reliance on memory was also encountered in the case of small trading units.

The analysis of the data and the results are organised in the following four chapters. Chapter II portrays the pattern of metal utensils in stock with the households, their use and metal categories and current demand. Chapter III attempts to identify and quantify the basic needs component of metal utensils. The next Chapter describes the production technology of the various metal categories of utensils and briefly looks at the comparative economics of production in case of different metals. Chapter V examines the income-consumption-technology-employment relationship using simulation techniques. Given the observed income distribution, implications of alternative redistribution schemes, which presumably lead to fulfillment of basic needs to varying extent, have been worked out in terms of changes in inter-class and aggregate pattern of metal utensil consumption as well as the employment implications of their production, in an ex ante sense. The final Chapter presents a resume of our findings and draws certain conclusions and implications relevant for the analysis and policy of fulfillment basic needs through 'redistributive' growth. 4583

## Chapter II : Structure of Consumption of Metal Utensils

### 2.1 Commodity Characteristics

Utensils as a commodity group represent a variable mix of items with various shapes, sizes, material contents and quality differences; and, these characteristics do not necessarily have specificity in relation to different uses. In fact, alternative products with varying mix and degree of physical, material and quality characteristics are available for meeting one particular kind of requirement. Though the range of utensils brought into one particular kind of use can be specified in terms of commodity characteristics like durability, efficiency and elegance as well as in terms of material base and technology, for the analysis of demand, it is desirable to have use category as a criterion of classifying the utensils. Further, from the viewpoint of studying technological conditions of production, a classification based on metal content of utensils is considered useful. It may be pointed out that metal base of utensils cuts across the use categories (see Annexure 1).

The uses to which utensils are put could broadly be classified into three categories : cooking, serving and carrying and storage. The metals used for production of utensils are iron, aluminium, brass, phool (an alloy of tin, copper and nickel), kaskut (a mix of metal scraps including phool scraps), copper, german silver (an alloy of copper, zinc and nickel), and stainless steel. The non-metal materials used for making utensils are china clay, glass.



ordinary clay and plastics. For certain kinds of uses like serving and storage, metal and non-metal utensils are substitutable for one another. The present study, however, focusses on metal utensils only. In any case, it is the metal utensils which are used for the most essential of the requirements namely cooking, and according to our estimates, the metal group accounts for around 98 per cent of the value of all kinds of utensils possessed and purchased by the households.

The analysis in this section basically aims at examination of consumption behaviour of the households in respect of metal utensils, in relation to their income levels proxied by per capita expenditure (PCE) levels. Consumption is specified here in terms of stock and current purchases. It may be mentioned here that the total demand or requirement of metal utensils as a group-item is not reflected fully in the current household purchases. Metal utensils are durable items and are purchased in the event either of the need for replacements or of additional requirements. Thus, the stock of metal utensils is of greater relevance for analysis of consumption of this item particularly in comparing the requirements in the context of fulfillment of the basic needs. The impact of income redistribution has, however, been visualised in terms of changes in the current demand (purchase) pattern, assuming that average behaviour of the consumers in a particular income class is uniquely determined.



In the present analysis, metal utensils have been taken as an independent group of consumption item in the total household expenditure. In other words, the group of needs satisfied by the use of metal utensils is by and large, taken to be a function of total household income alone; the problem of inter-need substitution has not been considered. We consider cooking, serving and carrying and storage of food and water as virtually indispensable needs of a household. Also the question of significant inter-need transfer of expenditure does not seem important in the present case due to a very small share of the item concerned in the total household expenditure. According to a survey conducted by the local State Government during 1969-70, the purchase of utensils accounted for only 0.37 per cent of the monthly household expenditure in the rural areas and 0.21 per cent in the urban areas. Our own survey conducted for the present study brings out an estimate of 0.28 per cent for rural and 0.32 for the urban areas.

The hypothesis underlying our analysis in this section implies, on the one hand, that the needs that are fulfilled by metal utensils, can be satisfied in different ways representing various degrees of essentiality and non-essentiality; and on the other hand, the various metal bases of utensils represent a hierarchical order based on their costs and prices which also broadly corresponds to the degree of essentiality and non-essentiality of need fulfillment. For example, plates will form essential

serving utensils, but table spoons may not be considered essential in the given situation where people are habituated of eating using their fingers; and an aluminium or brass plate would serve the purpose though costlier, more elegant and durable stainless steel plates could be used if one can afford them. Similarly, cooking vessels for staple food and lentils are necessary, a pressure cooker may not necessarily represent the basic need characteristics so long as housewives have plenty of time to cook with the help of traditional utensils; and then the cooking vessels could be of iron, aluminium and steel, though the cheapest among them will be good enough for serving the basic need.

It is hypothesised that the expenditure on metal utensils would increase primarily representing the expansion of stock of utensils having essential characteristics both in terms of use variety and metal category at low income levels; but increase in expenditure would primarily represent the variety in need fulfillment, and quality, elegance and durability of utensil stock, at level of income higher than that required to fulfill basic needs.

Another dimension that needs to be added here is that the metal utensils are also purchased, by those who can afford, for only occasional use either of the households or others. It is not uncommon to find a few spare dinner sets in the possession of middle and higher income groups in the urban areas, or of the relatively rich in the rural areas, for use on special occasions

by their families and guests. In the villages, social and religious ceremonies require cooking vessels of such large sizes and serving utensils in such large numbers as have no use in routine household consumption. Facilities do not exist in villages generally for hiring such utensils on rent; sometimes the village collectively owns vessels and utensils for this purpose; or then certain rich and socially privileged families have stocks of such utensils. For the purposes of fulfillment of basic needs of households, however, it is the stock in regular use that is relevant, and the proportions of household stock in regular use and in occasional use would be another dimension in specifying the degree of essentiality and non-essentiality in the household consumption of utensils.

Another important aspect of the analysis of consumption of metal utensils in relation to household income levels, is the quality difference among various items that go to fulfill the same need. It is, however, difficult to precisely define the qualitative characteristics of utensils except in terms of certain proxies. The branded products are often considered qualitatively superior to unbranded ones and within the group of branded products, it may be possible to rank the products by the reputation of the manufacturing concern. A large part of the metal utensils in India are, however, unbranded and produced in the medium, small and tiny units in the semi-organised and unorganised sectors. The

only variable through which quality variations can be inferred is the price relatives, which could be used with the assumption that a difference in price reflects the differences in metal base, weight, production technique and other attributes of quality.

## 2.2 Use Categories of Utensils

As mentioned earlier, the metal utensils could broadly be classified into the following five use categories : Cooking (C), Cooking Accessories (CA), Serving (S), Serving Accessories (SA) and Storage and Carrying (SC). The following description gives a qualitative idea of the structure of utensils generally used by households in India, for serving different functions.

Utensils that are mostly and almost exclusively used for cooking purposes are tawa (flat frying pan), karnhai (deep frying pan), batuli (round shaped boiling pot); and cooking accessories, namely, karchhul and chamcha (both cooking spoons), and chimta and sansi (both forks used for holding heated utensils). Other cooking utensils are tasla (a hollow and flat based utensil, generally bigger than full saucer), phagana (a boiling pan), kettle, frying pan, cooker, pressure cooker etc. Within the cooking category it is also possible to distinguish between utensils that are directly and indirectly used in the cooking process. An indirectly used cooking utensil is, for instance, tasla in which flour is processed to make dough for preparing bread.



The most common serving utensils are thali (a metal plate), tumbler and bowl. Other serving utensils are tray, cup, mug, spoon, fork, knife etc., which are relatively less popular among low income groups, particularly in rural areas. The storage and carrying utensils are kalash (a large round shaped vessel used for storing water), buckets, jars, milk pots, tiffin boxes etc., and ghara and surahi (both earthen containers commonly used for storage and carrying of water particularly in rural areas). Annexure 1 gives a list of the main utensils classified by use-categories and metal bases. Annexure 2 explains the types of utensils by their local names and by their use.

### 2.3 Household Stock of Utensils

Average value of the stock of utensils estimated to Rs.213.34 for the rural and Rs.505.38 for the urban households in our sample. In value terms 98.51 per cent of utensils stock of rural and 96.23 per cent of the urban households consisted of metal utensils and the rest of non-metal utensils (Table II.1). It is noticed that the non-metal utensils constituted a small and almost constant percentage of the value of utensils stock in the PCE ranges from below Rs.350 to Rs.950-1250, but household with higher than Rs.125 PCE showed a relatively high and rising share of non-metal utensils in the rural areas. It probably reflects primarily a change in the quality of non-metal utensils : while the low income households use earthen clay utensils which have very low value, the high income households have chinaware and ceramics as the main non-metal

Table II.1

Value of Current Stock of Metal and Non-Metal Utensils Per Household

Per Capita Expenditure (Rs/Annum)	RURAL			URBAN		
	Metal	Non-metal	Total	Metal	Non-Metal	Total
1. Below 350	143.65 (99.45)	0.80 (0.55)	144.45 (100.00)	33.95 (92.51)	2.75 (7.49)	36.70 (100.00)
2. 350-425	156.91 (98.89)	1.76 (1.11)	158.67 (100.00)	-	-	-
3. 425-500	165.16 (99.47)	0.88 (0.53)	166.04 (100.00)	169.12 (100.00)	-	(169.12) (100.00)
4. 500-600	163.11 (99.23)	1.27 (0.77)	164.38 (100.00)	103.37 (100.00)		103.37 (100.00)
5. 600-750	200.94 (98.80)	2.45 (1.20)	203.39 (100.00)	392.31 (97.65)	9.44 (2.35)	401.73 (100.00)
6. 750-950	200.20 (99.24)	1.54 (0.76)	201.74 (100.00)	236.69 (94.79)	13.00 (5.21)	249.69 (100.00)
7. 950-1250	242.11 (98.61)	3.41 (1.39)	245.52 (100.00)	456.38 (97.92)	9.68 (2.08)	466.06 (100.00)
8. 1250-1600	296.65 (97.81)	6.64 (2.19)	303.29 (100.00)	519.56 (93.75)	34.66 (6.25)	554.22 (100.00)
9. 1600-2200	354.12 (95.76)	15.67 (4.24)	369.79 (100.00)	1216.94 (96.78)	38.16 (3.04)	1255.10 (100.00)
10. 2200 or more	554.67 (96.30)	21.33 (3.70)	576.00 (100.00)	1264.74 (95.26)	63.16 (4.74)	1327.90 (100.00)
ALL classes	210.16 (98.51)	3.18 (1.49)	213.34 (100.00)	486.33 (96.23)	19.05 (3.77)	505.38 (100.00)

component of their utensils stock which has a much higher value than the traditional pottery products used by poor households. In the urban areas the lowest income households with PCE below Rs.350 have a significant proportion of non-metal to metal utensils in the stock value. Then non-metal utensils disappear in the PCE ranges between Rs.350 to Rs.600; and after that a small and almost constant proportion is spent on them by households in different income ranges. The lowest income group in urban areas again use mostly clay products in the non-metal category as is evident from a very small absolute value spent on the utensils in this category. Higher income ranges possess a minimum stock of non-metal utensils mainly chinaware and ceramics, but seem to prefer adding to the stock of metal utensils.

Leaving out the non-metal utensils which form but a small proportion of total consumption of utensils we now turn to the consumption behaviour of households in respect of metal utensils. No doubt, the expenditure on stock of this item is generally positively associated with the per capita household expenditure level; but the relationship is not always consistent and proportional. Household with a PCE level of less than Rs.350 have a stock of Rs.143.65 worth of metal utensils in the rural areas, but even in the highest PCE range of over Rs.2200 the figure is only Rs.554.67. Thus it looks that in the rural areas the expenditure on metal utensils rises less than proportionately with the rise in income levels. In the PCE ranges upto Rs.950, the absolute



expenditure on metal utensils has only a small variation between Rs.144 for the lowest and rupees 200 for the highest expenditure range. It is only in the PCE ranges above Rs.950 that one finds a steeper rise in expenditure on metal utensils than in income levels. The inter-group variations are, however, much wider in urban areas; the lowest income group have utensil stock worth only Rs.34 while those with Rs.1600 or more per capita income have a stock worth Rs.1200.

Two inferences that can be drawn from the details given in Table 11.1 are : one, the expenditure on metal utensils is not monotonous function of income levels, it has discontinuities particularly after the households reach a sufficiently high income levels. For a wide range of income in the lower ranges the perception of needs in relation to this item is more or less fixed to the fulfillment of essential requirements. Second, the degree of deprivation from fulfillment of basic needs in terms of stock of utensils is probably lower in the rural than in the urban areas, particularly at the lowest ranges of per capita income; but the degree of non-essentiality creeps in more steeply in the high income ranges in the urban areas than in the rural areas. These hypotheses, suggested by the figures of total stock could, however, be confirmed only when we look at the use and metal composition of utensil stock.

#### 2.4 Stock of Metal Utensils by Use Category

It is in conformity with our expectations that we find that the



regularly used metal utensils account for an overwhelmingly major share of the value of total stock, though a 10 per cent share of utensils of non-regular use seems rather high given the generally low levels of household expenditure in general. Though the regularly used utensils account for around 90 per cent of the value of total utensil stock in both rural areas and urban areas taken together (Table II.2), some variations are noticed within this

Table II.2

Per Household Value of Current Stock of Regularly Used Metal Utensils

Per Capita Expenditure (Rs./Annum)	RURAL		URBAN	
	Value	Percentage to	Value	Percentage to the
	(Rs)	the total stock (Rs)	(Rs)	total stock (Rs)
Below 350	128.00	89.11	33.95	100.00
350-425	147.59	94.06	-	-
425-500	144.82	87.68	169.12	100.00
500-600	145.71	89.33	103.37	100.00
600-750	189.55	94.33	343.88	87.66
750-950	197.34	98.57	233.29	98.56
950-1250	215.11	88.85	415.61	91.07
1250-1600	276.06	93.06	492.70	94.83
1600-2200	296.54	83.74	1142.04	93.85
2200 - more	316.17	57.00	1183.16	93.55
ALL	190.82	90.79	453.91	93.33

limited range between areas and income groups. First, the households in urban areas have a slightly lower (7%) proportion of occasionally used utensils than those in rural areas (9%). In

the rural areas inheritance and gifts in marriages probably account for somewhat higher extent of utensils of non-regular use, as it is seen that rural households even in the lowest PCE ranges have significant extent of such utensils, even though their current need of utensils for regular use cannot be considered to have been fulfilled. Second, in the rural areas the extent of utensils of non-regular use does not seem to have any consistent relationship with income level of the households : even the households in low income ranges have some utensils of occasional use, their value ranging between 1 to 11 per cent of the total stock between the PCE ranges upto Rs.1600. In the last two PCE ranges, i.e. Rs.1600-2200 and Rs.2200 or more, however, their extent increases, particularly in the last range where it is as high as 43 per cent. The urban households, however, show a more continuous relationship of the proportion of occasional-regular use utensils with PCE ranges. No households upto a per capita expenditure of Rs.600 has any utensil of non-regular use. In the expenditure ranges above that one finds a tendency of increase in utensils of occasional use as a proportion of total stock with rising level of per capita expenditure.

For further analysis of consumption of metal utensils, we have considered the regularly used metal utensils only. The average numbers per household of regularly used metal utensils along with their values, by use categories and expenditure classes are shown in Table II.3 (R) for rural and Table II.3(U) for the urban house

Table II.3 (R)

## Per Household Possession of Regularly Used Stock of Metal Utensils (Rural)

Number (N) and Value (V) in Rupees

Per Capita Expenditure (Rs./Annum)	USE CATEGORY										Total	
	C		CA		S		SA		SC			
	N	V	N	V	N	V	N	V	N	V	N	V
1. Below 350	4.15	33.20	2.10	4.45	5.80	52.90	0.70	0.40	2.90	37.15	15.65	128.00
2. 350-425	4.53	43.89	2.66	8.45	8.09	48.19	1.00	1.38	3.41	45.69	19.69	147.59
3. 425-500	4.02	41.14	2.38	4.76	6.02	55.99	1.46	1.89	2.73	41.04	16.60	144.82
4. 500-600	4.28	46.14	2.58	6.58	6.85	46.69	0.42	1.42	2.98	44.90	17.12	145.71
5. 600-750	4.36	59.54	3.02	7.48	6.80	59.70	1.28	8.80	3.54	54.64	19.00	189.15
6. 750-950	4.72	56.66	3.16	8.54	7.54	77.92	0.66	0.79	3.30	53.43	19.18	197.34
7. 950-1250	4.36	58.59	3.53	13.17	7.33	68.52	1.31	5.90	4.11	68.93	20.64	215.11
8. 1250-1600	5.54	75.10	3.72	9.99	10.36	107.27	2.46	4.05	4.49	79.64	26.56	276.06
9. 1600-2200	6.10	69.00	4.10	10.88	11.62	138.60	2.81	0.72	5.00	77.35	29.62	296.54
10. 2200 or more	4.67	56.50	3.00	8.00	11.33	114.00	4.67	4.67	4.33	133.00	28.00	316.17
ALL classes	4.58	54.18	3.02	8.32	7.59	69.07	1.22	3.31	3.53	55.95	19.93	190.82

Use Categories : C - Cooking; CA - Cooking Accessories; S - Serving; SA - Serving Accessories;  
SC - Storage and Carrying



Table 11.3 (U)

## Per Household Possession of Regularly Used Stock of Metal Utensils (Urban)

Number (N) and Value (V) in Rs.

Per Capita Expenditure (Rs./Annum)	USE CATEGORY												TOTAL			
	C			CA			S			SA					SC	
	N	V		N	V		N	V		N	V		N	V	N	V
1. Below 350	1.84	9.17		2.75	8.26	5.51	16.51	-	-	-	-	-	-	-	10.09	33.95
2. 350-425	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
3. 425-500	2.94	54.41		3.68	22.06	4.41	44.12	3.68	5.88	3.68	42.65	18.38	169.12			
4. 500-600	4.91	38.04		1.23	3.68	7.36	41.10	1.84	0.92	1.23	19.63	16.56	103.37			
5. 600-750	6.47	120.98		3.85	20.46	11.36	154.20	3.15	5.77	2.45	42.48	27.27	343.88			
6. 750-950	6.37	75.74		4.01	20.86	10.38	82.29	4.19	5.02	3.67	49.39	28.62	233.29			
7. 950-1250	6.28	134.45		3.92	18.52	12.90	197.22	3.16	5.50	3.48	59.92	29.71	415.61			
8. 1250-1600	8.82	205.88		5.14	29.29	15.15	182.23	6.43	11.75	3.95	63.55	39.49	492.65			
9. 1600-2200	9.59	466.94		5.13	26.74	30.82	556.74	12.25	27.14	4.69	64.49	62.65	1142.04			
10. 2200 or more	5.26	342.63		3.68	23.16	36.32	709.47	9.47	23.68	4.21	84.21	58.95	1183.16			
ALL Classes	6.87	164.58		4.18	21.69	14.55	203.47	4.97	9.00	3.51	55.05	34.07	453.91			

Use Categories : C- Cooking; CA - Cooking Accessories; S- Serving; SA- Serving Accessories;  
SC- Storage and Carrying

The average number of cooking utensils per household in the rural area works out to 4.58 and in urban area 6.87. But the variations among the PCE classes in the stock of utensils of different uses is found much more marked among the urban households than among rural ones. The variations in value are still more marked in urban areas due to the greater use of higher value items by the higher income urban groups, than the lower income groups in the urban and higher income groups in the rural areas. The total number of utensils of all kinds per households varies between 16 and 30 among different expenditure ranges in the rural areas; and between 10 and 59 in the urban areas. The range of variation in value of utensils stock in the rural areas is between Rs.128 and Rs.316, while in the urban areas it is between Rs.34 and Rs.1183.

The variations in the quantum and value of regularly used metal utensils among the households in different PCE ranges in rural areas is mainly found in the serving utensils (S). The consumption of cooking utensils (C), including cooking accessories (CA) seems more or less fixed among different expenditure groups. It looks that a household requires a minimum of cooking utensils which it must have irrespective of its economic status, and additions beyond this minimum are redundant even if a household could afford. The better-off households can, of course, go in for qualitatively better and costlier utensils, as is reflected in higher value figures in their case. The range of qualitative variations, however, seems

rather limited in the rural areas. The number and value of utensils used for carrying and storage of food and water (SC), show a consistent, though less than proportionate, increase with increasing expenditure levels. The qualitative change in the consumption of such utensils is virtually absent as the value increases proportionately with numbers, except in the case of the highest PCE range (Rs.2200 or more) where the value of storage and carrying utensils rises abruptly though their number is only slightly above the average. The serving utensils (S), however, show a significant rise in number beyond the per capita income range of Rs.1250, after rising only gradually with expenditure level in the lower ranges. Increase in value is generally proportionate to that in number of utensils in this category, implying very little qualitative variations.

In the urban areas, utensils in all use categories show a steep rise in number as well as value with rising PCE ranges. This is so even in case of cooking utensils; the lowest expenditure group has only two cooking utensils per household of the average value of Rs.9.17 while those in the per capita expenditure range of Rs.1600-2200 have almost 10 such utensils with the value of Rs.467 on an average. If the rural average of 4.58 cooking utensils per household is taken as the necessary minimum, urban households in the per capita expenditure range upto Rs.500 fall short of this requirement and those in the PCE ranges between Rs.1250 and Rs.2200 have twice the number of utensils than the minimum required. Leaving



apart the lowest and some of the highest ranges, the value of cooking utensils in the urban areas rises almost in line with their number among the different PCE ranges, thus implying little qualitative variation. In the case of cooking accessories the number as well as value does not seem to change much across the expenditure groups.

The variations are very wide both in number and value of serving utensils though not so much in serving accessories. In the PCE ranges upto Rs.600 per capita, the urban households have 5 to 7 items in this category, those in the Rs.600-1250 ranges 10 to 15 items, and those in the higher ranges have 30 serving utensils on an average. The value of these utensils changes from the first to the second group in proportion with the number, but much more sharply in the third group over the second. Thus those in the middle income ranges buy larger stock of similar serving utensils as are used by lower income groups, but the high income groups buy larger number of qualitatively superior serving utensils. The carrying and storage utensils do not vary widely among the different income ranges either in number or value; and despite the wide difference in the level of consumption both in terms of number and value of metal utensils in aggregate between rural and urban areas, the rural-urban differences in the consumption of this category of utensils are also not significant.

The above description of the household consumption behaviour in

respect of metal utensils of different use categories suggests that cooking utensils form the foremost category of utensils for serving the basic needs of the households. The degree of non-essentiality in the household expenditure on this item is also the lowest, though the highest income brackets in the urban areas do seem to have some stock of cooking utensils which may not be necessary for the fulfillment of basic needs. Similar is the case with storage and carrying utensils, where non-essentiality in quantity terms seem non-existent in the behaviour of households though the highest income group in the rural areas seem to have included a good degree of quality non-essentiality in their stock of utensils in this category.

It is primarily the serving utensils where the possibility of a significant degree of acquisition not relevant for the fulfillment of basic needs seems to exist, both in rural and urban areas. It is not only that the households in the high expenditure ranges buy more than necessary number of serving utensils but their purchases are also of relatively better quality and higher value. The non-essential characteristics both in quantum and quality are, therefore, likely to be the largest in the consumption of this category of utensils in general.

## 2.5 Stock of Utensils by Metal Category

The different metals forming the material base of utensils differ in terms of weight per unit of volume, durability, elegance and

price. The five different metals specifically considered in the present analysis are : iron, aluminium, brass, phool and stainless steel; the rest of the metals used for manufacturing utensils are clubbed together in the category of 'others'. The residual category of 'others', though claiming a significant percentage of stock as well as current purchases, could not be disaggregated for the present analysis due to the reason that it consists of a wide variety of metals and alloys, (kaskut, zinc, german silver, copper and nickle, to name a few) for each of which information on production conditions was extremely difficult to obtain. Therefore, the analysis has been carried out in terms of a group of them together. There is little specificity of metals in terms of different use of utensils; the same metal can be used for the manufacture of utensils of different uses, as can be seen from Annexure 1. Therefore, the use of utensils made of one or the other metal by different households is a function of the relative prices along with durability and sophistication. One could broadly assume that the qualities of elegance and sophistication would weigh more with the relatively higher income groups while among the lower income strata of households the price would prove to be the most important determinant. Durability can outweigh price differentials to some extent even among the lower income groups.

To a limited extent, however, it is possible to differentiate among utensils in terms of their use, price, durability and other related attributes, by their material base. While cooking utensils and

cooking accessories of iron are used by all classes of people, aluminium is often referred to as the 'poor man's metal'. That does not, however, mean that aluminium utensils are not used by higher income groups. The use of cooking utensils made of brass is on a decline particularly because brass is apparently active to food having acidic contents. The use of phool utensils is experiencing a steeper decline due both to supply and demand conditions. Still in rural areas the possession of phool utensils is often considered as a token of status. Stainless steel is the new and upcoming metal, but it is also the costliest and not all households can afford it. The category of 'others', as remarked earlier represents a widely mixed metal base, and similarly variegated use structure.

In our sample the iron and brass utensils, in that order, hold the major importance in the utensil stock of rural households, each claiming about 28-29 per cent of the total value. Aluminium comes next with 19 per cent of the stock value. Phool claims 2 per cent and stainless steel 4 per cent, and the rest, about 18 per cent, is shared by other metals. In the urban areas, brass tops in importance claiming 34 per cent of the value of stock of household metal utensils. But the next place is held by stainless steel with a 23 per cent share followed by aluminium at 19 and iron at 16 per cent. Phool also constitutes a significant, 7 per cent, share of the value of utensil stock of urban households. 'Other' metals are not found to be significant.



Table II.4 (R)

## Value of Current Stock of Utensils by Metal Category

(Percentages)

Per Capita Expenditure (Rs./Annum)	Iron	Aluminium	Brass	Phool	Stainless Steel	Others	TOTAL
1. Below 350	35.95	28.89	15.84	-	0.42	18.90	100.00
2. 350-425	38.48	33.92	14.22	3.58	0.60	9.20	100.00
3. 425-500	33.44	20.55	21.13	1.10	0.82	22.96	100.00
4. 500-600	35.37	28.06	24.15	0.72	0.76	10.94	100.00
5. 600-750	30.58	16.57	33.85	0.57	0.77	17.66	100.00
6. 750-950	26.81	19.65	26.73	6.14	1.26	19.41	100.00
7. 950-1250	26.91	17.47	31.73	1.13	5.73	17.03	100.00
8. 1250-1600	24.22	15.40	26.39	2.01	5.83	26.15	100.00
9. 1600-2200	19.94	7.74	42.82	-	8.23	21.27	100.00
10. 2200 or more	18.84	5.71	24.25	-	46.87	4.33	100.00
ALL classes	28.88	19.18	27.94	1.83	3.88	18.29	100.00

Table II.4 (U)

## Value of Current Stock of Utensils by Metal Category

(Percentages)

Per Capita Expenditure (Rs./Annum)	Iron	Aluminium	Brass	Phool	Stainless Steel	Others	TOTAL
1. Below 350	10.81	89.19	-	-	-	-	100.00
2. 350-425	-	-	-	-	-	-	-
3. 425-500	30.00	70.00	-	-	-	-	100.00
4. 500-600	36.80	33.53	-	29.67	-	-	100.00
5. 600-750	13.41	5.97	57.49	7.44	15.69	-	100.00
6. 750-950	13.60	18.88	42.89	8.48	16.15	-	100.00
7. 950-1250	14.32	15.52	43.80	14.28	11.49	0.09	100.00
8. 1250-1600	25.68	21.18	26.71	3.29	21.35	1.79	100.00
9. 1600-2200	5.82	22.09	28.09	5.86	39.97	0.17	100.00
10. 2200 or more	5.74	24.68	12.36	2.41	54.81	-	100.00
ALL classes	16.18	19.41	34.27	7.21	22.81	0.12	100.00

Iron, aluminium and brass, holding importance in that order, together make around 80 per cent of the total value of utensil stock of households with a PCE upto Rs.600 in the rural areas. These metals still claim over three-fourths of the value of utensil stock in the households with PCE between Rs.600 and Rs.2200, but the top most importance in this group of household is held by brass and not by iron. In the highest income group (Rs.2200 or more PCE) of households stainless steel becomes the most important metal with a 47 per cent share, followed by brass, iron running a poor third. Share of phool utensils has no relationship with income ranges, though it does not seem to be popular at the lowest and the highest ends of the given income ranges of the households. Consumption of stainless steel utensils is insignificant in the rural households with PCE upto Rs.950, it seems to gain some importance in the PCE range of Rs.950-2200, but becomes the major item in the utensil stock beyond the PCE level of Rs.2200. The utensils made of other metals show a highly random behaviour in relation to the household PCE levels.

In the urban areas, household with PCE upto Rs.500 mainly use aluminium utensils but in the next PCE range of Rs.500-600, iron, aluminium and brass have almost equal share in the utensil stock of the households. Households in none of these ranges reported use of stainless steel utensils. In the PCE ranges between Rs.600 and Rs.1250, brass holds major importance, in the next range, Rs.1250-1600, it shares importance almost equally with iron, aluminium and stainless steel. In the PCE ranges above Rs.1600 stainless

steel is the major metal in household utensil stock; aluminium and brass ranking second and third, respectively.

## 2.6 Current Purchases

As mentioned earlier in analysing consumption behaviour of households in respect of consumer durables like metal utensils, the stock is a more appropriate variable than current expenditure, as the latter would form only a small proportion of the total household requirements and consumption. On the basis of our survey, the percentage of current purchases (annual) to total value of metal utensils stock with households is estimated at 5.96 in the case of rural and 4.18 in the case of urban households. But for the purposes of analysing pattern of demand for metal utensils, particularly with a view to assessing the impact of changes in levels and structure of incomes, the pattern of current purchases would be more useful. Besides, certain hypotheses could be advanced in respect of the households' behaviour in respect of their expenditure on additions to their stock of metal utensils. It could be argued, for example, that the lowest income groups would add to their stock mainly in terms of increase in number of utensils for meeting more essential requirements which are not yet fulfilled even physically, while the higher income groups may add primarily to the stock in a way that introduces variety and qualitative improvements.

The pattern of current purchases of metal utensils by the rural and urban households as depicted in Table II.5(R) and II.5(U) respectively



Table 11.5 (R)

## Per Household Current Annual Purchase of Metal Utensils (Rural)

Number (N) and value (V) in Rupees

Per Capita Expenditure (Rs./Annum)	USE CATEGORY														TOTAL						
	C						CA						S			SA				SC	
	N		V		N		V		N		V		N			V		N		V	
	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V	N	V	
1. Below 350	0.15	2.40	-	-	0.10	0.60	-	-	-	-	-	-	-	-	-	-	-	0.25	3.00	-	-
2. 350-425	0.19	2.50	-	-	0.16	1.31	-	-	-	-	-	-	-	-	-	-	-	0.34	3.81	-	-
3. 425-500	0.25	3.49	-	-	0.38	1.94	-	-	-	-	-	-	-	-	-	-	-	0.63	5.43	-	-
4. 500-600	0.30	3.49	-	-	0.50	2.27	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.87	6.35	0.54	0.15
5. 600-750	0.48	3.52	0.03	0.10	0.95	3.69	0.20	0.33	0.20	0.33	0.15	0.15	0.15	0.15	0.02	0.15	0.02	1.67	7.79	0.25	0.25
6. 750-950	0.39	6.03	0.03	0.08	0.46	4.49	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.02	0.25	0.02	1.05	11.00	1.20	1.20
7. 950-1250	0.42	6.36	0.06	0.55	1.35	7.89	1.09	0.91	1.09	0.91	1.09	0.91	1.09	0.91	0.06	1.20	0.06	2.96	16.91	1.20	1.20
8. 1250-1600	0.46	12.31	-	-	0.67	13.44	-	-	-	-	-	-	-	-	-	-	-	1.13	25.74	-	-
9. 1600-2200	1.10	27.00	0.05	0.24	0.71	12.10	-	-	-	-	-	-	-	-	0.10	1.29	0.10	1.95	40.62	1.29	1.29
10. 2200 or more	0.33	14.67	-	-	3.67	64.00	-	-	-	-	-	-	-	-	0.33	6.67	0.33	4.33	85.33	6.67	6.67
ALL classes	0.39	6.32	0.02	0.12	0.67	5.47	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.42	0.03	1.31	12.53	0.42	0.42

Use Categories : C - Cooking; CA - Cooking Accessories; S - Serving; SA - Serving Accessories; SC - Storage and Carrying

Table II.5 (U)

## Per Household Current Annual Purchase of Metal Utensils (Urban)

Number (N) and Value (V) in Rupees

Per Capita Expenditure (Rs/Annum)	USE CATEGORY											
	C			CA			S			SA		
	TOTAL			TOTAL			TOTAL			TOTAL		
	N	V	N	V	N	V	N	V	N	V	N	V
1. below 350	-	-	0.92	3.30	-	-	-	-	-	-	0.92	3.30
2. 350-425	-	-	-	-	-	-	-	-	-	-	-	-
3. 425-500	-	-	2.21	5.88	-	-	-	-	-	-	2.21	5.88
4. 500-600	-	-	1.23	3.01	1.23	2.76	-	-	-	-	2.45	5.77
5. 600-750	0.52	2.80	0.18	0.35	0.87	2.62	-	-	0.18	2.62	1.75	8.39
6. 750-950	0.26	1.79	0.09	0.18	0.79	4.60	1.13	0.90	0.26	4.19	2.53	11.65
7. 950-1250	0.44	6.19	0.38	0.92	0.32	3.64	0.57	1.07	0.38	6.20	2.09	18.01
8. 1250-1600	0.46	6.80	0.09	0.18	0.82	13.59	0.37	0.92	0.28	4.59	2.02	26.08
9. 1600-2200	0.82	41.43	1.02	4.90	0.20	5.31	0.41	0.98	0.20	2.45	2.65	55.06
10. 2200 or more	-	-	0.53	1.47	1.05	26.32	-	-	0.53	10.53	2.11	38.32

Use Categories : C - Cooking; CA - Cooking Accessories; S - Serving; SA - Sewing Accessories;  
 SC - Storage and Carrying

by and large, supports the findings of our earlier analysis of the stock of metal utensils. First, the low income groups both in the rural and urban areas are able to spend a very small amount on metal utensils currently, but most of what they spend goes towards the purchase of cooking utensils and cooking accessories. In the middle income ranges, the major part of current expenditure is equally shared by cooking and serving utensils. In the high expenditure ranges serving utensils score over cooking ones, though carrying and storage function also claims a significant portion of current expenditure.

What is further significant to note is that a higher expenditure on metal utensils by the households in upper PCE ranges represents not so much a larger quantum but higher value per item, while in the lower ranges, say upto Rs.1250 PCE, variations in value mainly represent the number of items purchased by households. This pattern is more particularly discernible in the case of purchases of serving utensils, where one item purchased by rural households in the PCE range Rs.500-750 is valued at Rs.3.69, while two-thirds of an item purchased by households in PCE range of Rs.1200-2200 has a value of Rs.12.50. Similar pattern is discernible in the case of current purchases of the urban households.

In terms of the material base of the current purchase of utensils, brass, aluminium and iron along with 'others' account for almost the entire expenditure on utensils, in the case of rural households.

Phool utensils do not seem to be a popular item of current purchases. The amount of expenditure on purchases of iron utensils by rural households is almost constant in all PCE ranges of households, that on aluminium utensils shows an increasing trend with high PCE ranges, expenditure on brass utensils moves up slowly upto the PCE range of Rs.1250-1600, but then suddenly shoots up very high after that. Stainless steel is not a significant claimant of current expenditure on metal utensils except in the PCE range of Rs.2200 and more.

In the case of urban households, aluminium, iron and stainless steel utensils have almost equal share in the current purchases. Aluminium and iron utensils claim more or less similar absolute amounts of expenditure among the households in different income ranges. Brass utensils become an item of current purchase only for the households with PCE above Rs.750, and then the amount spent on this item increases more or less in proportion to per capita expenditure. Stainless steel utensils, similarly become an item of current purchase of households only beyond the per capita expenditure level of Rs.750, then the increase in the amount spent on the become rather sharp in the higher PCE ranges.

The magnitude of annual expenditure on metal utensils per households work out to Rs.12.53 for rural and Rs.20.34 for the urban households. The metal-wise percentage distribution of the value of purchase is : iron 11.38, aluminium 26.46, brass 26.89, stainless



steel 2.79 and other metals 32.48 in case of rural households. The corresponding figures for urban households are 17.03, 21.13, 16.67, 15.80 and 28.37. It may be noted that the share of stainless steel utensils markedly differs between rural and urban households. A difference of this order in the purchase of stainless steel, the costliest among the metals considered, is indicative of marked differences between living standards and life styles of the people belonging to rural and urban areas. Further, the lowest magnitude of expenditure on phool reveals the lowest order of preference for such utensils.

## 2.7 Some Correlates of Current Demand for Metal Utensils

Even though the expenditure on current purchases of metal utensils forms a small item in the total household expenditure, its quantum and characteristics reflect the nature and magnitude of demand for metal utensils as an item of consumption. It is, therefore, worthwhile to analyse the behaviour of expenditure on metal utensils among households with different characteristics. Theoretically, the household demand structure is determined by real income levels, family size and composition, individual preferences and relative prices. In case of metal utensils the size of family seems to be relevant in determination of number of utensils, particularly of 'serving' category, required by the family. Social surroundings and differences in the levels of education may influence the demand operating through value orientations. Lastly, the demand for individual item is related with the entire structure of household

consumption which is determined by purchasing power, preference structure and price relatives. We have presented certain characteristics of the sample households, namely per capita total expenditure for different classes of rural and urban households in Tables 11.6(R) and 11.6 (U), respectively. Table 11.7 shows the correlation coefficients among these indicators across income groups for rural and urban households.

A few characteristics of the data on various variables for different PCE groups may be noted. Percentage of expenditure on non-food items shows a significant increase particularly after PCE level of Rs.950 in rural areas and Rs.600 in the urban areas. Literacy ratio shows a continuous increase with the PCE levels, though the literacy level is much higher in urban than in the rural areas, particularly in the high income ranges. Average household size is more or less constant in the different PCE ranges. The absolute amount of expenditure on purchase of metal utensils shows almost proportionate increase with PCE levels in the case of rural households; but the rate of increase is faster than PCE in the higher income ranges of urban households. This would be true both of per household and per capita expenditure on metal utensils as the household size does not vary very much among the different PCE ranges. The increase in percentage expenditure on metal utensils, with the rising levels of per capita expenditure, is however, found to be rather slow and much less than proportionate to the variations in

Table 11.6 (R)

## Current Demand for Metal Utensils in Relation to Household Characteristics (Rural)

Per Capita Expenditure (Rs./Annum)	Per Per- son Total Expendi- ture (Rs./Annum)	Per- centage of Expendi- ture on Non-food items (%)	Average House- hold Size (No.)	Per- centage of Litera- tes (%)	Per House- hold Expen- diture on Metal Utensils (Rs./Annum)	Per Capita Expendi- ture on Metal Utensils (Rs./Annum)	Percentage of Expenditu- re on Metal Utensils	Cooking and Cooking Accesso- ries
1. Below 350	317.72	21.09	5.35	15.13	3.00	0.50	0.16	0.13
2. 350-425	395.54	14.36	6.90	11.76	3.81	0.55	0.14	0.09
3. 425-500	469.92	10.42	6.43	18.45	5.43	0.84	0.19	0.12
4. 500-600	558.63	17.12	5.61	24.33	6.35	1.13	0.19	0.10
5. 600-750	671.32	19.83	5.52	31.75	7.79	1.41	0.21	0.10
6. 750-950	859.13	18.83	5.31	24.07	11.00	2.07	0.24	0.13
7. 950-1250	1097.51	30.00	5.09	30.36	16.91	3.32	0.30	0.12
8. 1250-1600	1400.90	38.00	4.58	46.93	25.74	5.61	0.39	0.08
9. 1600-2200	2095.91	44.00	6.85	54.17	40.62	5.93	0.28	0.19
10. 2200 or more	3707.09	48.00	4.66	64.29	85.33	18.29	0.49	0.08
ALL classes	800.43	22.75	5.66	27.56	12.53	2.21	0.28	0.14

Table II.6 (u)

## Current Demand for Metal Utensils in Relation to Household Characteristics (Urban)

Per Capita Expenditure (Rs./Annum)	Per Person Total Expenditure (Rs. Annum)	Percentage of Expenditure on Non-food items (%)	Average Household Size (No.)	Percentage of Literates (%)	Per Household Expenditure on Metal Utensils (Rs./Annum)	Per Capita Expenditure on Metal Utensils (Rs./Annum)	Percentage of Expenditure on Metal Utensils Total and Cooking and Cooking Accessories
1. Below 350	270.86	16.46	6.50	15.38	3.30	0.51	0.19 0.19
2. 350-425	-	-	-	-	-	-	- -
3. 425-500	477.16	18.77	5.80	20.69	5.88	1.01	0.21 0.21
4. 500-600	573.57	22.08	4.33	23.08	5.77	1.33	0.23 0.12
5. 600-750	704.64	25.19	6.14	23.46	8.39	1.37	0.19 0.07
6. 750-950	956.01	29.48	4.61	34.54	11.65	2.52	0.30 0.05
7. 950-1250	1099.91	32.20	5.06	57.82	18.01	3.56	0.32 0.11
8. 1250-1600	1439.94	39.00	4.85	66.49	26.08	5.38	0.37 0.10
9. 1600-2200	2179.57	38.40	6.94	80.80	55.06	7.93	0.36 0.34
10. 2200 or more	3894.38	41.55	4.14	82.76	38.32	9.23	0.24 0.01
All Classes	1229.05	34.66	5.25	51.90	20.34	3.91	0.32 0.13



Table II.7

## Associations Among Selected Indicators of Household Characteristics and Current Demand of Metal Utensils

(Correlation Coefficients)

Area/Indicators	Indicator Codes							
	1	2	3	4	5	6	7	8
RURAL								
1. Per capita total expenditure (Rs./Annum)	1							
2. Expenditure on non-food items (%)	0.905+	1						
3. Average household size (No.)	- 0.400	-0.378	1					
4. Percentage of literates	0.926+	0.951+	-0.442	1				
5. Expenditure on metal utensils per household. (Rs./Annum)	0.997+	0.887+	-0.392	0.904+	1			
6. Expenditure on metal utensils per capita (Rs./Annum)	0.979+	0.845+	-0.486	0.867+	0.989+	1		
7. Proportion of expenditure on metal utensils (%)	0.883+	0.868+	-0.710*	0.887+	0.873+	0.894+	1	
8. Proportion of expenditure on cooking utensils and cooking accessories	- 0.066	0.100	0.494	0.015	-0.103	- 0.233	-0.231	1

+ Significant at 1% level; \* Significant at 5% level; d.f. : Rural 9 and Urban 8.

Table 11.7 Continued

Area/Indicators	Indicator Codes							
	1	2	3	4	5	6	7	8
URBAN								
1. Per capita total expenditure (Rs./Annum)	1							
2. Expenditure on non-food items (%)	0.905+	1						
3. Average household size (No.)	-0.295	-0.294	1					
4. Percentage of literates	0.866+	0.961+	-0.146	1				
5. Expenditure on metal utensils per household (Rs/annum)	0.804+	0.840+	0.121	0.428+	1			
6. Expenditure on metal utensils per capita (Rs/Annum)	0.945+	0.914+	-0.165	0.968+	0.939+	1		
7. Proportion of expenditure on metal utensils (%)	0.297	0.746*	-0.092	0.695*	0.638*	0.563	1	
8. Proportion of expenditure on cooking utensils and cooking accessories	-0.192	-0.163	0.780*	0.014	0.313	0.011	0.198	1

+ Significant at 1% level; \* Significant at 5% level; d.f. : Rural 9 and Urban 8.

PCE ranges. Percentage of expenditure on utensils to total expenditure varies between 0.14 and 0.49 in the case of rural households and 0.19 and 0.37 in the case of urban households among the PCE ranges as wide as between below Rs.350 to Rs.2200 and more.

It is interesting and pertinent to note here that the expenditure on cooking utensils and accessories reveals quite different behaviour from the total expenditure on metal utensils. While the latter, as percentage to total household expenditure increases with PCE levels, the proportion that goes to purchase cooking utensils and accessories shows a secularly declining trend. For example, in the case of rural households, 80 per cent of the expenditure on metal utensils is accounted for by the cooking utensils and accessories in the lowest PCE range of upto Rs.350, the proportion is between two-thirds and one-half in the next four PCE ranges, then steeply declines to less than half reaching a mere 17 per cent in the highest range, with the exception of the PCE range Rs.1600-2200. In the case of urban households, similar behaviour is observed with greater sharpness. In the PCE ranges upto Rs.500 all the current expenditure on metal utensils goes to the purchase of cooking utensils and accessories, in the next range this category claims around half the expenditure on metal utensils but in the PCE ranges beyond Rs.600, its share is very much lower, declining to a mere 4 per cent in the highest range. The PCE range Rs.1600-2200 proves an exception here also.

The behaviour of expenditure on cooking utensils and accessories to total household expenditure (last column of Table II:6(K) and II:6(U)) besides showing an overall declining tendency with increasing PCE ranges, reveals a sharp discontinuity with PCE range of Rs.600-750 in the case of rural and of Rs.750-950 in the case of urban households. From the bottom PCE range upto these ranges, the percentage expenditure on cooking utensils and accessories continuously declines; then it sharply increases in the next PCE range, but again shows a continuously declining trend with the exception of PCE range Rs.1600-2200 in both the rural and urban case. It may be noted here that the dividing line between the poor and non-poor households as identified in our analysis falls in PCE ranges, Rs.600-750 for rural and Rs.750-950 for urban areas. It is, therefore, plausible to suggest that beyond this level of per capita expenditure, a definite qualitative change seems to take place in the composition of cooking utensils purchased, in favour of costlier metals and varieties. But overall, the households with higher per capita expenditure are found to generally spend a smaller percentage of their total expenditure than households with lower PCE, on cooking utensils and accessories.

The three indicators of total demand for metal utensils, namely, per household expenditure, per capita expenditure on percentage expenditure on them, are found to have a significantly positive relationship with the three household characteristics used by us namely, per capita total expenditure, expenditure on on-food items



and literacy ratio both in the case of rural and urban samples. But household size is not found to have any meaningful relationship with any indicator of the utensils demand of the household. The strong positive relationships between per capita expenditure and expenditure on non-food items which themselves are closely associated with each other, on the one hand, and the indicators of household demand for metal utensils, particularly in terms of per capita expenditure on this item, suggest that demand for metal utensils can be analysed directly in relation to household income levels and independently of the commodity structure of household consumption. Percentage expenditure on cooking utensils and accessories, is however, not found to have any significant relationship with any of the variables, except family size in the case of urban sample. It is, however, pertinent to note that it shows a negative, even though insignificant relationship with per capita total expenditure, and expenditure on non-food items in both the rural and urban cases, and also with per capita expenditure on metal utensils, and percentage expenditure on metal utensils in the rural areas.

### Chapter III : Basic Needs and Metal Utensils

#### 3.1 Metal Utensils as a Basic Need Category

The behaviour of expenditure on metal utensils as revealed by the analysis in the preceding chapter suggests, on the one hand, that metal utensils do not constitute an item of basic need in the same category as food; but, on the other hand, they show the basic need characteristics of a higher degree than most other non-food items. While the amount of expenditure on metal utensils is found to increase in absolute as well as in percentage, with rising PCE levels, the percentage increase in it is generally much less than in the group of non-food items as a whole. The implication of these trends is that, on the one hand, there is an indispensable component of metal utensils for fulfillment of basic requirements; on the other the degree of non-essentiality in the stock of metal utensils tends to have a smaller extent than other non-food items of consumption even in the higher income levels.

As an item of consumption, metal utensils would thus receive a priority in the order of needs in the households consumption over most of other non-food items, which either feature as an item of consumption only after a certain minimum level of income or claim a sharply increasing proportion of expenditure with rising levels of incomes. But they would come next to food items which not only feature as an item at all levels of income, but also show a declining proportion at higher income levels.

The pattern of responses from the sample households also goes to confirm this proposition. While 25 per cent of the respondents, mostly belonging to PCE groups beyond Rs.750, did not propose any expenditure on metal utensils, in the event of a rise in their incomes, of the rest 72 per cent gave to metal utensils, one of the top three ranks in the order of priority among the following eight groups of consumption items : foodgrains, other food items, clothing and footwear, metal utensils, chinaware, glassware, housing and education. In the incremental expenditure, metal utensils claim a priority only after foodgrains and other food items, in most cases. It may, however, be pointed out that a small increase in incomes may not lead these households to purchase metal utensils ; we find that two-thirds of those wanting to purchase them would do so only if their income rose by at least 25 per cent. This is true both in the rural and urban situation.

It may be pointed out that cooking utensils show the characteristics of basic need item more significantly, than the metal utensils group as a whole, both on the basis of common observation as well as the behaviour of expenditure on this item in relation to the total expenditure. We have seen that once allowance is made for qualitative improvements at substantially high level, expenditure on cooking utensils declines as percentage of total household expenditure with rising PCE levels. The pattern of responses from the sample households in respect of the ranking order of various metal utensils also

they would purchase in the event of a general reduction in utensil prices, goes to confirm that in most cases an item of cooking category receives the first priority among the lower income groups, but as we advance higher in the PCE ranges serving utensils claim the priority in most cases. This variation is more marked in the urban sample than in the rural. It may further be noted that 75 per cent of those rural households who would buy additional utensils in the event of an income rise or general price reduction, would like to add to their stock, utensils of the same quality as they now possess. In this respect, the urban consumers, however, seem little more conscious of quality as about three fourth of the prospective buyers in this case would like to have additional utensils either partly or wholly of better quality. In terms of the metal categories, the rural consumers most often would buy aluminium utensils, brass receiving second preference and iron running a poor third. In the urban case stainless steel and brass would share the top priorities.

The evidence presented above only partially supports the case of metal utensils as an item of basic need. But at the same time it also points to the absoluteness of the necessity of a minimum stock at least of cooking utensils, for a household. Yet this item has not received adequate attention in the context of strategy for fulfillment of basic needs. The commonly recognised basic needs are food, clothing and housing. The situation in India today suggests that although our food production has substantially increased during the last two decades, under-nutrition



still prevails to a large extent. A large section of the population is deprived more of other necessities like clothing and housing. Food, clothing and housing also take the large chunk of total household consumption expenditure of the poorer groups, hence their importance in discussion on basic needs. The relative lack of attention to metal utensils as a basic consumer item seems to be accounted for, not by any notion of its non-essential nature but by the rather small part of the aggregate consumer expenditure that it claims. But the fact remains that metal utensils are indispensable items of household consumption. The issue that needs to be sorted out, therefore, is that of the quantum and composition of metal utensils that are required for the fulfillment of the minimum requirements of the households.

### 3.2 Identification of 'Basic Need' Component of Metal Utensils

The various dimensions which feature in the identification of the level of metal utensils stock that constitute the basic need of a household are : number, uses, metal base and other quality attributes. One way of identifying it could be purely normative, as is done in the case of food. One could specify the minimum number and size of cooking utensils and accessories, number of serving and carrying utensils needed by a household of a given size, in order to enable it to fulfill its minimum needs of consumption. The specificities of location, social environment etc., can also be taken account of in this approach, by empirical observation. There are, however, questions of metal composition

of utensil stock, durability etc., which are difficult to tackle in a purely normative approach; for, the same needs could be fulfilled by the use of utensils made of different metal and of different durabilities.

Another approach that can be adopted is that of empirically identifying the basic need component of metal utensils in terms of the level and composition of utensil stock with the households which on some other more reliable basis are presumed to be just at the level of fulfilling their basic need in respect of some other more important items. In the present context given the facts that metal utensils comprise essential goods used primarily in the food nexus, and claim a minor portion of total household expenditure, it can be assumed that households which are capable of fulfilling the basic food needs in terms of caloric and nutritional norms, would also be having utensil stock needed for meeting minimum requirements. The problem in this approach then is of the identification of the groups of people who are in the vicinity of minimum needs fulfillment based on food norms, and then studying the level and composition of metal utensil stock in respect of their households.

The Indian Planning Commission has estimated that on an average a per capita total expenditure of Rs.53.00 per month in the rural area and Rs.62.00 per month in urban areas (both at 1973-74 prices) corresponds to the fulfillment of bare minimum caloric intake requirements. The corresponding per capita annual estimates for

1979-80, the year of survey, work out to Rs.817 for rural and Rs.1161 for urban areas. Taking this as the line of distinction in the present context, we find that 62.68 per cent of the rural population and 52.80 per cent of urban population constitutes the deprived group (referred to as segment-1 onwards). Thus the non-deprived group (segment-2) represents not even half of the total population as revealed by the survey data (Table III.1). The

Table III.1

Percentage Distribution of Sample Population by Per Capita Total Expenditure Classes

Per capita total expenditure (Rs./Annum)	RURAL		URBAN	
	Percentages	Cumulative percentages	Percentages	Cumulative percentages
Below 350	5.26	5.26	2.45	2.45
350-425	9.76	15.02	-	2.45
425-500	13.65	28.67	2.80	5.25
500-600	14.88	43.55	2.45	7.70
600-750	14.89	58.44	12.24	19.94
750-950	14.31	-	18.52	38.46
750-817	4.24	62.68	-	-
817-950	10.07	72.75	-	-
950-1250	12.37	85.12	27.98	-
950-1161	-	-	14.34	52.80
1162-1250	-	-	13.64	66.44
1250-1600	7.91	93.03	18.52	84.96
1600-2200	6.35	99.38	12.24	97.20
2200 or more	0.62	100.00	2.80	100.00
ALL	100.00	-	100.00	-
Segment-1	62.68	-	52.80	-
Segment-2	37.32	-	47.20	-



segment-1 comprises such persons as agricultural labourers, marginal and small farmers, artisan workers, street hawkers and persons in other petty trade and business, and their dependents. This does not, however, mean that every individual belonging to any of these categories is below the abject poverty level.

For the purposes of identifying the level and composition of metal utensils for fulfilling basic needs, we have used the above estimates of poverty line. We assume that, the availability of metal utensils which are regularly used by the group of people just around the per capita expenditure level of Rs.817 per annum in rural, and Rs.1161 in urban areas represents the minimum absolute requirement. We, therefore, consider the regularly used stock in possession of the average rural household in the PCE class Rs.750-950 and urban household in Rs.950-1200 as representing the requirement of metal utensils fulfilling the basic need. The average family size of the rural and urban households, in the above PCE ranges are 5.31 and 5.06 persons respectively which are not significantly different from the averages for the sample. The value of stock of regularly used metal utensils in possession of the rural households in the relevant PCE ranges works out to Rs.197 and of the urban households Rs.416. Taking these values as of the stock necessary to fulfill basic need we have described the characteristics of the basic need component of metal utensils in terms of the features revealed by the pattern of composition of stock with the households, in Table III.2.



Table III.2Characteristics of Basic Need Composition of Metal Utensils

	RURAL		URBAN	
	Number	Value (Rs)	Number	Value (Rs)
1. Stock	19.18	197.34	29.71	415.61
2. Use Categories:				
Cooking	4.72	56.66	6.28	134.45
Cooking Accessories	3.16	8.54	3.92	18.52
Serving	7.54	77.92	12.90	197.22
Serving Accessories	0.66	0.79	3.16	5.50
Carrying and Storage	3.30	53.43	3.48	59.92
3. Metal Composition (% of value of stock)				
Iron		26.81		14.82
Brass		26.73		43.80
Aluminium		19.65		15.52
Phool		6.14		14.28
Stainless steel		1.26		11.49
Others		19.41		0.09

The actual composition of items that could form the basic need is revealed to be as follows, on the basis of the average number of items of different kinds possessed by the households in the relevant PCE range in the rural and urban areas. A rural family of five persons needs 4 to 5 cooking utensils like tawa, karhai, batuli and bhagona; three cooking accessories such as cooking spoon, sansi and chimta; seven or eight serving utensils like thali, plate, bowls and tumbler; one or two spoons and around four utensils for storage and carrying purposes. The minimum required numbers for an average five-person urban family are, similarly, a set of six utensils for cooking, four cooking accessories, 13 serving utensils and four for storage and carrying purposes.

It may be noted that the minimum requirements of utensils (in numbers) for urban households appear to be higher as compared to that for their rural counterparts. The findings fall in line with the observation that the needs, perceptions and lifestyles of the rural and urban people are different. Number of food items cooked and served, the practice of taking meals jointly or separately or at different hours during a day and such other differences between rural and urban people, seem significant in determination of the household requirements. When asked directly whether they feel that their stock of metal utensils is adequate to meet their minimum need, 57 per cent of the urban consumers replied in negative while of the rural consumers, only one-third considered their stock inadequate.

### 3.3 Some Tests for Validity of our Estimates

Our estimates of the minimum needs components of metal utensils consumption of households in rural and urban areas seem quite reasonable on the basis of the physical norms of absolute necessities. It may, however, be interesting to examine these estimates on the basis of certain tenets of consumption behaviour. Basically one expects the consumption level fulfilling basic needs to be a cut-off point, implying thereby that the consumption behaviour of the households at lower levels of expenditure and that at higher levels of expenditure would be qualitatively different. Let us therefore look at the household consumption of metal utensils in the PCE ranges below that identified as the basic needs level and compare it with that of households above it. Such comparison can be useful in respect of number, use category, quality and metal characteristics of utensils, stock and the pattern of current purchases.

The consumption of metal utensils by the households in the PCE range of Rs.750-950 in the rural areas and in the PCE range of Rs.950-1250 in the urban areas has been taken by us as representing basic need of households in respect of this group of items. The main feature of the differences in the household stock of metal utensils and their current purchases between the segments lower and higher than the basic need level of PCE, as revealed by data analysed in Chapter II, are summarised below:

- 1) Up to the PCE range representing basic need fulfillment, the

total number of utensils varies between 16 and 19 in different PCE ranges in the rural households; in the higher PCE ranges the usual number of utensils possessed by a household vary between 27 to 30. Similarly in the urban household the variation in the lower PCE ranges are between 18 and 30, but the households in the PCE range just above the basic need level have an average number of 39 items and those in the higher PCE ranges as many as 66 and 59.

ii) In the PCE ranges below the minimum needs level the number of cooking utensils make one-third to one-fourth of total number of utensils in stock with rural households, but in the higher PCE ranges cooking utensils make only one-sixth to one-seventh while serving utensils around two-fifths of the total number of utensils. In the urban households the serving utensils account for around two-fifths in the lower ranges, but around one-half of total number in the PCE ranges higher than the basic need.

iii) In any individual use category, the value of utensils rises with PCE range generally in line with the number of utensils till the basic need level of expenditure, but after that the rise in value is proportionately much higher than the increase in numbers. The basic need level identified by us thus tends to provide the dividing line in the matter of the quality preferences of the households in different expenditure ranges.

iv) In terms of metal composition of the utensil stock, it is pertinent to note that stainless steel enters for the first time



as the significant item in the PCE range above the basic need range, and then goes on rising in importance in subsequent ranges of PCE in the case of rural households. A similar though less strong tendency is discernible in case of urban households also.

v) The current purchases of metal utensils also suggest similar qualitative differences between the lower and upper segments of households, PCE range estimated to ensure minimum needs fulfillment providing the dividing line. Major part of the current expenditure of the households below basic need fulfillment level goes to purchase cooking utensils, while in the higher ranges, serving utensils generally claim the largest share of current expenditure on utensils, both in the case of rural and urban households. In terms of metal, iron and aluminium claim the major share in the lower ranges and brass and then stainless steel in the higher ranges of PCE. It is also pertinent to note that the additional requirements of metal utensils as expressed by the households are mostly in terms of the items of regular use in case of households in PCE ranges below the basic need fulfillment; while the items of non-regular use dominate the additional need perception of the households in the higher PCE ranges.

Thus the approach that we have adopted for identifying the basic need contents of the metal utensils is by and large validated. Empirically the basket of utensils identified on this basis seems to meet the normative criterion of minimum requirements of the

average households quite realistically; and theoretically, the level estimated as required for basic need fulfillment is also found to conform to the various hypotheses that can be advanced on the basis of theory of consumer behaviour in respect of basic need items.

## Chapter IV : Supply Conditions : Technology and Marketing

The present chapter aims at portraying the technological characteristics of the different categories of metal utensils with a view to identifying their employment potential in relation to capital and output, on the one hand; and, at assessing the prevalent marketing system from the viewpoint of its adequacy for supplying the needed quantities of metal utensils at reasonable prices in the rural areas, on the other.

### 4.1 Categories Used for Technological Variations

For analysing technological variations, we have used metal categories of utensils. No doubt, variations in technology exist among production units within a metal category. We did not, however, include intra-metal variations in our analysis for two reasons. One, the constraints of time and resources did not allow a large scale survey of production units covering sufficiently large number of units as would permit such an analysis. And second, on the basis of preliminary observation we found that inter-metal variations are certainly much more significant, than the variations in technology within the group of units using the same metal. Even the small sample of units surveyed by us suggest this. Our sample included 23 units distributed among the five metal categories in five different locations as follows : five units of each of iron (Kanpur), aluminium (Lucknow), brass

(Moradabad) and phool (Basti), and three units of stainless steel (Ghaziabad). If variations in size and use of total productive capital (fixed plus working capital) per worker are used as indicators of technological levels, it is seen that while each of the metal group stands out clearly in distinction from others, all or most units within a metal group lie within a relatively narrow range of these variables. For example, all phool units have a value of output of less than Rs.2 lakhs\*; most brass units are in the output range of Rs.2 to 3 lakhs; iron units between Rs.3 to Rs.5 lakhs, aluminium units between Rs.5 to Rs.10 lakhs and stainless steel units over Rs.10 lakhs. Similarly the value of total productive capital per worker is less than Rs.5000 for all phool units, between Rs.5000 to Rs.10000 for most iron units; between Rs.10000 and Rs.20000 for all aluminium units, between Rs.20000 and Rs.25000 for most brass units and over Rs.25000 for all stainless steel units.

Further, different units even within the same metal group manufacture different sets of products; each set comprising a few selected items. A small sample did not enable us to have usable information on technology by individual item or group of items for making inter-category comparisons of technology on a disaggregated basis. Information about production technology was collected for all the items produced by the sample units but for analysis it had to be aggregated in value terms. But from the point of view

\* One lakh = 100,000



of the present study, the sample coverage is deemed sufficient to depict at least an ordinal view of the production technology. It is assumed that, in response to a change in the demand profile, the marginal changes in the production mix and hence in the technology mix, as specified on the basis of the sample observations, would be similar to the actual ex ante changes in the technology mix in an aggregative sense. It is, however, desirable to give some description of the general aspects, namely the types of utensils produced by the selected units, the major raw materials and their sources of availability, machinery and equipments and the processes of production. The technical coefficients are shown and analysed subsequently.

#### 4.2 Products, Materials and Equipments

Major items produced by the sample metal utensil manufacturing units are karahi, tawa, tasla and can (bucket), each of iron; batuli, pateeli (aluminium and phool), kettle (aluminium), tumbler (aluminium, brass, phool and stainless steel), parat (aluminium, phool) and bowls (aluminium and stainless steel). The sample stainless steel units also manufactured certain other items, such as plates of different sizes, bhagonas, rice trays, compartments trays and cafeteria trays.

The iron utensils are produced from iron sheets, available in different thicknesses, at the government controlled rates through

quota system as also from the open market. The aluminium units used aluminium scrap and ingots for producing the utensils. The brass and phool industry mainly recycled old material in the form of rejected utensils and scraps. Unlike these, the stainless steel units used imported sheets to a large extent. Other major material inputs used comprised steam coal, hard coal, and fire food particularly in brass and phool industry, rivets in iron industry, besides power, chemicals and paints.

For production of iron utensils like karahi, tawa and tasla, mostly hand operated tools are used. They are rail (a piece of railway line used as base for hammering), nai (anvil; an iron based instrument used for shaping utensils by hammering), chheni (a hard iron rod flattened and sharpened at one end, used for cutting by hammering), nihai (a bigger size chheni with wooden top), hammer, ghan (a big size hammer) and scissors. For producing cans, power operated equipment such as cutting machine, roller and core machines are also used.

The aluminium utensils industry uses more mechanised and sophisticated equipments like rolling machine, cutting machine, press machine, lathes, electric drills, shapers, polishing equipments etc., besides electric motors, hand tools and consumable stores.

The brass units deployed lathes, scrapping machine, rolling machine, cutting machine, punching machine and buffing machine. The punching

machine is used mainly in producing cans. The phool industry mainly uses hand operated tools and equipment such as melting pot, fan, furnace, frame, pincers, hammers and anvil. In the manufacturing of tumbler, bowl and parat, turnery and polishing machines operated by electric power or diesel are also used. The steel units deployed press machine, cutting machine, spinning lathe, shaping machine and polishing machine.

#### 4.3 Processes of Production

The items like tawa, karahi and tasla are produced from iron sheet which are cut into circular discs and then hammered for shaping with the help of anvil and hammer. The distinction among tawa, karahi and tasla is mainly of size and depth. In karahi two loop shaped handles are also fitted. The handles are made by bending iron rods, punching and fitting them on two opposite sides with the help of rivets. The production of these utensils is done mainly with the help of hand operated tools. The manufacturing of iron cans is done with the help of power operated equipments, used for cutting iron sheets, shaping, making side rings in which the handles are hinged, and for punching. The hand operated tools are also used for bending, shaping and fixing rivets. The cans are also polished after checking for any leakages.

**Manufacturing** of aluminium utensils involves melting, rolling, disc cutting, pressing, spinning, washing and polishing processes.

Melting and rolling becomes necessary when scraps and ingots are used for producing sheets. Aluminium sheets are also available for production of utensils. The sheets are cut into discs and pressed or spinned for shaping. The utensils are then washed, polished and packed.

Among the brass utensils, the manufacturing of items like tumbler involves melting, moulding, scrapping, smoothing and polishing. The moulding is done with the help of a furnace, such that melted metal drops into the moulds and the unfinished product is ready. This follows scraping of the utensil with the help of diesel or electric powered machines. The smoothing and polishing processes are carried out with the help of lathe and buffing machines. Other brass items like thali and cans are produced through cutting, pressing, shaping and polishing processes. In case of cans, punch machine is also used to make holes for fixing handles.

The manufacturing of phool utensils, as indicated earlier is done mainly with the help of hand operated tools. The processes involved in the production are melting and rolling, pressing, grinding and polishing for items like thali of different sizes, tumbler and bowl. A rolling mill which converts the metal blocks into sheets, caters to a number of household units. Only a few units possess powered grinding and polishing equipments. Most of the units carry out these processes manually.



The process of manufacturing stainless steel utensils begins with cutting the metal sheet into circular (or rectangular) discs as required for specific items. The discs are cleaned, oiled and pressed with the help of press machine. In this process various kinds of dies are used for shaping. This is followed by spinning process for bringing in accuracy in the shape, and turning round the edges. The utensils are then polished and packed. In making rectangular item like some of the trays, the spinning process is not involved.

#### 4.4 Economic of Production

The total investment per unit in the stainless steel sector is of the order of Rs.684 thousands followed by aluminium at Rs.424 thousands, iron Rs.84 thousands, brass Rs.64 thousands and phool Rs.15 thousands only (Table IV.1). Except iron, similar ordering, of a more pronounced kind, is observed in the value of fixed assets per unit in different metal categories. The per unit value of fixed assets in the iron and phool industry comes to be of the same order since units in both these sectors mostly use hand operated tools. Yet the value of output per unit in the iron sector is almost four times that in the phool sector. It is neither possible nor necessary in the present context to ascertain the contributions of technology and relative prices to the disparity between the output levels of the iron and phool utensil manufactu

Table IV.1

## Average Size and Profitability of Sample Metal Utensil Manufacturing Units

Item (Per unit)	Metal Category			
	Iron	Aluminium	Brass	Phool Stainless steel
1. Fixed Capital (Rs)	2,455.00	2,70,300.00	34,300.00	2,250.00
% to total investment	2.92	63.76	53.53	15.13
2. Working Capital (Rs)	81,752.40	1,53,295.00	29,780.00	12,618.30
% to total investment	97.08	36.24	46.47	84.87
3. Total investment (1+2) (Rs)	84,207.60	4,23,945.00	64,080.00	14,868.00
4. Annual cost of production	3,27,009.60	6,13,179.60	1,18,020.00	1,07,880.00
5. Value of output per annum (Rs)	4,02,106.80	7,36,984.80	1,40,540.00	1,07,880.00
Profit (Rs/annum)	75,097.20	1,23,805.20	22,520.00	-*
% to cost of production	22.96	20.19	19.08	-

\* In phool industry the concept of profit is irrelevant because the industry is carried out on household basis. The surplus over the paid out cost makes the income of the households which mainly consists of notional wages of unpaid family labour.

ring. Yet, the observation is consistent with the fact that while the demand of iron utensils have been growing, that for phool utensils is on decline because of the scarcity and high price of the metal. The situation has led to a shrinking of phool industry.

For every hundred rupees of output, the total cost for phool utensil comes to Rs.87.29, which is the highest as figures for iron, brass and stainless steel stand in the vicinity of Rs.75.00 and for aluminium at Rs.66.12, the lowest among the five categories. The amount of profit earned per sample unit for stainless steel is about Rs.204 thousands followed by aluminium Rs.126 thousands, iron Rs.75 thousands and brass Rs.23 thousands. Profit as a category of accrued income is not relevant for phool units where the surplus over the paid out cost, mainly represent the notional wages of unpaid family labour. The profitability ~~seen as~~ percentage of profits to the cost of production ranges between 18.92 and 22.96 for all the metal categories. But the amount of annual profit as percentage of total investment comes to as high as 89.18 in case of iron units, against the range 29.20 to 35.14 for other metal categories (Table IV.1). It seems that the growth of iron utensil industry is the least constrained as compared to the units in other metal categories.

#### 4.5 Employment and Capital Intensity

The usual number of workers on a particular day per sample unit



works out to be the highest for aluminium (27.4), followed by stainless steel (14.0), iron (9.4), phool (6.0) and brass (5.0) in that order. In the phool units hired workers were casually engaged for only a few days during a month for jobs like melting and casting. Thus the number of workers reported for the phool units mainly represent household workers. The average numbers of man-days deployed annually per sample unit are estimated at 8220 for aluminium, 4200 for steel, and 2920, 1804, 1386 for iron, phool and brass, respectively.

The wages in brass, phool and iron units are generally paid on piece rate basis. In the case of aluminium, three of the five sample units reported to be paying wages mainly on time rates. All the stainless steel units reported only time rates for wage payments. The average monthly wage levels of the workers come to Rs.218 and Rs.217 for aluminium and stainless steel units, Rs.207 and Rs.202 for brass and iron, and only Rs.190 for workers in the phool sector. The inter-metal comparison is indicative of positive relationships among the levels of investment, wages and production technology.

To the extent capital intensity measures the level of technology, the stainless steel sector comes on the top, followed by aluminium, brass, iron and phool (Table IV.2). This is conformity with the fact that while the stainless steel and aluminium are modern



Table IV.2Technical Ratios in Metal Utensil Manufacturing

Item	Metal Category				
	Iron	Aluminium	Brass	Phool	Stainless Steel
Total investment per worker (Rs)	8,958	15,469	13,046	3,527	48,880
Value added to output ratio (%)	25.05	32.35	25.27	12.71	20.50
Wages paid per Rs.100 of output	5.67	11.55	8.68	1.00	2.84
Wages paid to value added ratio (%)	22.23	34.35	34.35	7.88	13.85
Number of mandays deployed annually per Rs.100 of investment	3.35	1.94	2.17	12.13	0.61
Number of mandays deployed per Rs.100 of output	0.70	1.12	0.99	1.67	0.33

industries, the manufacturing in brass and iron sectors have a mix of traditional and modern technologies and the phool industry is carried mainly on traditional lines. Certain other technical ratios of production also conform to this inter-metal pattern. The proportion of value added to value of output works out to 32.35 per cent for aluminium, followed by brass 25.27, iron 28.05, stainless steel 20.50 and phool 12.71. The inter-metal ordering remains unchanged in terms of wages-output ratio as well as share of wages in value added. The employment potential per unit of investment appears to be highest in phool industry, followed by iron, brass, aluminium and stainless steel industries. This suggests an inverse relationship between employment potential and the level of technology, in so far as only direct employment is considered.

As assessment of the employment potential per unit of investment is ~~relevant~~ particularly in the context of employment planning. But for visualising the impact of income redistribution on employment, which is the central objective of this study, the labour coefficients have also to be taken into account. The labour coefficient, are defined as the amount of labour required per unit of production. There is a wide variation in the labour coefficients, measured as mandays per Rs.100 of output. The Table IV.2 shows figures at only 0.33 for stainless steel; and those for iron, brass, aluminium and phool are around two, three, four and five times that of the stainless steel.

The pattern of labour coefficients makes the ordering of metals

for utensil manufacture by the criteria of minimum need fulfillment, and employment potential, somewhat difficult, to the extent employment intensity, labour productivity and basic need characteristics of different metals vary in different orders. Stainless steel has the smallest employment potential per unit of capital, but has highest labour productivity. It is, however, least important for fulfillment of basic needs. Phool is the most labour intensive category of utensils but has the lowest productivity per worker. Its supply conditions are, however, making it increasingly irrelevant for the purposes of meeting basic need. The remaining three metals iron, aluminium and brass have one order on the basis of employment intensity, but a reverse order on the basis of labour productivity. However, the minimum needs fulfillment the ordering of the three metals is the same as in case of employment intensity, and the productivity differences among the three categories of metal utensils are not very wide.

#### 4.6 Production and Price Trends

Let us also look at the production trends in the recent past and see how they conform to the requirements of fulfillment of basic needs. Information from the sample production units in different metal categories for the past five years ~~reveals~~ that the pattern of growth hardly corresponds to the pattern of supply required for the fulfillment of basic needs. Of the five metals considered by us, units engaged in the production of stainless steel have grown fastest at an average annual growth rate of output of around 20



per cent. Aluminium utensil units came next with an average growth rate of 9.5 per cent per annum; iron units are growing slowly at around 5 per cent per annum; while production of brass units ~~has stagnated~~ for a few years; growing brass units are mostly engaged in the artware production mainly for export. Production of phool utensils is facing an actual decline. To certain extent these trends conform to the pattern of demand emerging out of the trends in the distribution of incomes; but they also reflect, to a similar extent, the production constraints mainly in the form of the supply of raw material. Most units, particularly engaged in the production of phool, brass and aluminium utensils, attribute their slow growth or stagnation to the non-availability of raw material.

It is, however, not the absolute non-availability of metal utensils, but low levels of incomes and high and rising prices, that have posed the major constraint in the fulfillment of basic ~~needs~~ requirements of the households. No respondent household indicated non-availability in general or in the local market as a factor responsible for their non-fulfillment of requirement or for the absence of metal utensils as an item of current purchase. Of about 40 per cent of the rural and 55 per cent of the urban households which considered their stock of metal utensils short of their basic requirements, low income was mentioned as the reason by 80 per cent of the such rural and 55 per cent of the urban



households as the reason; the rest ascribed their inability to meet their requirements to the high prices of metal utensils. In effect, the two reasons could be identified as a single factor : lack of purchasing power. Metal utensils prices are found to have increased fast during the period 1965-80 (Table IV:3) : the fastest

Table IV:3

Retail Price (Per Kg.) of Metal Utensils (1965 & 1980)

Metal Category	Rural Outlets		Urban Outlets	
	1965	1980	1965	1980
Iron	2.00	7.50	1.50	6.00
Aluminium				
Branded	25.00	40.00	15.00	32.00
Unbranded	12.50	32.03	10.00	24.54
Brass	15.00	40.63	12.00	32.00
<u>Phool</u>	22.00	69.96	20.00	60.00
Stainless Steel	<del>40.00</del>	135.00	35.00	120.00

increase of over 300 per cent has been registered in the prices of iron utensils, followed by stainless steel (245%), phool (200%), brass (166%), and aluminium (190%). The general rise

in money incomes during the same period has lagged far behind. Consequently, a larger proportion of potential buyers of metal utensils do not get turned into effective buyers. Our investigations into this aspect from the traders reveal that around 61 per cent of the customers who visit their stores go away without making any purchases, after enquiring about prices. The proportion of such customers is found to be similar in case of the urban and rural retailers.

Income as well as price constraints are found to be more severely felt by the rural than the urban consumers. Due to a generally low population income index of rural areas, trading in metal utensils is not a very competitive activity and also involves larger risk element due not only to small magnitude but also of irregularity of the demand for metal utensils. Consequently, the rural outlets expect a higher margin of profit on their sales. But the constraint of local purchasing power puts a check on their margin of profit. One of the methods adopted by them to tackle this problem, as was observed during our field investigations, is to sell low quality items at the usual price for the items of standard quality. Unbranded nature of most of the items sold, gullibility of rural buyer, and lack of competition in the area, easily enables them to adopt such a practice. It is not uncommon to come across sale of unbranded aluminium and low quality iron and brass utensils being sold at the prices of branded and better quality

items in the rural areas. It has not been possible to empirically quantify the extent of such practice, for obvious reasons, but the practice is found to be commonly prevalent.

#### 4.7 Marketing Channels and Rural-Urban Price Differences

Despite this 'facility' of manipulation by the rural retailers, however, the average prices paid by the rural consumers, irrespective of the quality of utensils, are substantially higher than the urban prices, as can be seen from the data collected by us from the rural retailers (Table IV:3). We have attempted a factual analysis of these differences between the rural and urban areas, in terms of the additions to price over the ex-factory price, by way of transport cost, taxes, octroi and traders' mark-up, at each sale point in the trade channel. Let us first take taxes. First, there is the production tax called excise duty; it is levied at the rolling stage of metal processing, and gets included in the price of raw material. No excise duty is levied in the subsequent stages of manufacturing of metal utensils as such. The production tax thus makes a common part of the cost irrespective of the mode and area of sales of metal utensils. Then there are Central and State sales taxes. The Central sales tax is levied at the rate of 4 per cent ad valorem on utensils imported from outside the state. This again would not account for rural-urban price differences as there is no indication that utensils from outside the state are mostly sold in the rural areas. In



fact it is only the stainless steel utensils which are usually subject to this levy and they are mostly consumed in the urban areas. State sales tax is a single point tax levied at a rate of 8 per cent ad volorem. Onus of collection of this tax is on the first seller, that is, the manufacturer, and is, therefore, included in the manufacturers' price. All these taxes would thus not make a difference in the price of metal utensils between the rural and urban areas.

Taxes and rates levied on movement of goods would, however, make a difference depending on how many levy points the goods pass. Goods manufactured and sold in the same town will not be subject to octroi duty, which is levied on goods entering into certain specified areas, mainly the city municipal limits. The general rate of octroi is reported to be Rs.5.00 per quintal for iron, aluminium, brass, copper and phool and Rs.60.00 per quintal for stainless steel utensils. There is reason to believe that the utensils sold in rural areas would generally be subject to at least one more levy of octroi than those sold in urban areas if the manufacture of metal utensils are not located in the town from where the rural retailers procure their supplies. It would thus account for some difference in the prices between the urban and rural areas. But it forms a small part of the total price and thus could not account for a very significant part of the rural urban differences in prices. Similar is found to be the case with



transport charges; major part of which is incurred in the first stage, i.e. transport of goods from the place of their manufacture.

The urban areas are found well serviced in terms of the number of retail sale outlets, but, for the reasons stated earlier, rural retail outlets in metal utensils are few and far flung. The regular village retailers, which sell utensils along with other items, are supplemented by the weekly markets which have a few stalls selling utensils. The following features of the marketing of the metal utensils are interesting and useful, particularly with a view to analysing the difference between the urban and rural retail prices :

i) Major part of the purchases by urban retailers are made directly from the manufacturers, either local or situated in other towns. The rest who buy from the wholesalers, mostly local, have to pay higher price as it also includes wholesalers margin.

ii) All rural retailers report their purchases from urban wholesalers, and their purchase price should generally be the same as that of the urban retailers. A closer scrutiny, however, revealed that the dealers from whom the rural retailers buy are wholesalers cum-retailers, and on smaller purchases, which is mostly the case so far as rural retailers are concerned, the price charged by them is not the wholesale but retail price. The proportions of rural

retailers' purchases at the wholesale and retail prices are roughly estimated to be equal. All urban retailers, on the other hand buy from wholesalers at the wholesale price.

iii) Transport and octroi charges are not significantly different among the routes of procurement, and in any case, a little higher charges in case of rural retailers, cannot justify the magnitude of price difference between rural and urban areas, as transport and octroi makes only about 1 to 2 per cent of the total purchase price.

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Thus the major reason for price differences between rural and urban areas is to be found in the route of procurement by retailers and purchase price they have to pay for metal utensils. We have attempted an estimate of the effective cost of procurement of the metal utensils by retailers by different channels. We have taken the manufacturer's sale price as 100, and worked out the cost to the retailers by adding transport costs, octroi, and trade margins of the intermediate sellers. We find that the metal utensils which the manufacturer sells at Rs.100 inclusive of excise and sales tax and his own profit, gets ultimately into the hand of the urban retailer, on an average, at a cost of Rs.111 and of the rural retailer at a cost of Rs.130 (Table IV:4). A small part of Re.1 to Rs.2 of this difference is due to transport cost and octroi, but most of it is accounted for by the different sources of procurement and different prices paid by the retailers. A retailer gets the utensils cheapest if he procures directly from the manufacturer :

Table IV:4

Effective Purchase Cost of Retailer Per Rs.100 Worth of Utensils at Manufacturers Sales Price (including excise and sales taxes)

Metal	Source of Procurement by Retailers					
	URBAN RETAILERS		Manufacturer Wholesaler		Average cost of purchase	Average Sale price
	% purchase	Cost (Rs)	% purchase	Cost (Rs)	(Rs)	(Rs)
Iron	50	104	50	123	114	135
Aluminium	69	102	31	118	107	125
Brass	80	106	20	125	110	130
Phool	20	103	80	118	115	131
Stainless steel	80	105	20	122	108	133
Average	60	104	40	123	111	132

  

RURAL RETAILERS		Wholesalers at whole sale price		Wholesalers-cum-retailer at retail price		Average cost of purchase	Average sale price
	%	Cost (Rs)	%	Cost (Rs)		Rs	Rs
Iron	60	124	40	135		130	147
Aluminium	50	119	50	127		123	148
Brass	30	127	70	138		134	158
Phool	55	119	45	133		126	137
Stainless Steel	60	123	40	135		127	152
Others	35	123	65	135		131	148
Average	49	124	51	135		130	149



over the price charged by the latter, he only incurs an additional cost of Rs.4 on Rs.100 worth of utensils. A retailer purchasing from the wholesaler in addition, pays the latter's margin so that he gets utensils worth Rs.100 at manufacturers' prices, at Rs.123. In the urban areas, 60 per cent of the retailers procure utensils directly from the manufacturer and 40 per cent from the wholesalers. The average cost to the urban retailers per Rs.100 worth of utensils at manufacturers' price comes to Rs.111.

Rural retailers buy from the urban wholesalers, but in around 50 per cent cases the prices charged to them by wholesalers, who are retailers also, are urban retail prices. The effective average cost to rural retailer, including transport cost and octroi, if any, for Rs.100 worth of utensils at manufacturers' price, comes to Rs.130. The final prices charged by the rural retailers from the consumers, for different categories of metal utensils are higher in rural areas as compared to the urban areas more or less in proportion to the differences in cost of procurement by the urban and rural retailers.

Marketing arrangements as they exist thus operate to the disadvantage of the rural consumers. To a certain extent the small magnitude, low density and irregularity of demand in the rural areas, makes this disadvantage inevitable. Continuation of this disadvantage with the generally rising trend in prices, may increase the prices of utensils so high in the rural areas that an increase



in the incomes may not lead to the rise in the demand for metal utensils, as envisaged in the subsequent analysis in this study. Establishment of public or cooperative wholesale outlets in the urban areas to ensure that rural retailers are charged wholesale and not retail prices, should, however, help reduce this disadvantage.

## Chapter V : Impact of Income Distribution

### 5.1 Approach and Assumptions

Using the findings of the earlier analysis of consumption pattern, basic need characteristics and production technology of metal utensils, we now turn in this section to the assessment of the impact that changes in income distribution are likely to produce on technology and employment in this sector through their effect on consumption and demand pattern. The analysis proceeds on the basis of a number of premises, the most important of which could be stated as follows. First, the major concern of a policy to bring about a change in patterns of income in India is to alleviate the conditions of those people who live in poverty and deprivation, so as to bring them upto a level where they are able to fulfill the basic needs in respect of various items of consumption. We have identified the group of population below this level as segment 1 and those above it as segment 2. Second, as we have argued earlier, the desirable change in the pattern of incomes is feasible in the Indian situation mainly through a 'redistributive growth' path, where efforts are made to channel the major share of additional income into the hands of population in segment 1. Pure redistribution, in terms of transfer of current incomes from those in segment 2 to those in segment 1 has very limited applicability in the given level of development and institutional set up. Third, the envisaged redistribution is thus to be brought out in the process of growth, implying increase in the

average levels of income; and it can be achieved mainly through creation of larger employment opportunities for those in segment 1. A few alternative variants of the strategy based on these assumptions have been outlined and their implications for demand, production pattern and technology have been brought out. The inter-relationships implicit in the analysis have been examined using simple simulation models.

Various kinds of scenarios of 'redistributive' growth could theoretically be envisaged. But we have adopted only five alternative variants of growth path, which could be considered nearer realism and feasibility in the given context. As pointed out earlier, the kind of redistributive strategy envisaged by us would necessarily be accompanied by an increase in the overall average income level; and, while the redistribution aims at fulfilling basic needs of the poor (segment 1), the possibility of a change in the income of the remaining higher income groups (segment 2) cannot be ignored. The five alternatives that we have accordingly chosen are as follows:

- A. 50 per cent of the poor in segment 1 achieve at least desired minimum income levels while incomes of persons in segment 2 do not change.
- B. 50 per cent of the poor in segment 1 achieve at least the desired minimum income level but in the process the population in segment 2 also experiences an increase of about 20 per cent in the rural and 10 per cent in the urban areas.
- C. All the poor in segment 1 get shifted to segment 2, but incomes of those in segment 2 remains unchanged.



- D. All the poor in segment 1 get shifted to segment 2, and income of people hitherto in segment 2 also increases by magnitude as indicated in B.
- E. 25 per cent of the poor in segment 2 achieve at least the desired minimum income level and income of people in segment 2 also increases as in B.

In the first stage of simulation the impact of redistribution has been identified in terms of the change in current demand (annual purchases). Given the distribution of population by income classes (proxied by PEC classes), it is possible to simulate either on changes in income levels or on class distribution of population. In the former case, however, the group identities may be lost sight of if viewed by the ex-post income classification so that a classification of population by deciles, semi-deciles or percentiles gives the picture more clearly. Such a simulation would also require the use of income (or expenditure) elasticities of demand for projecting the post-distribution profile of current demand. In the present case, however, the different groups of population have been defined by income brackets and a redistribution is depicted by a series of shifts of persons from lower to higher income brackets. In other words, a redistribution implies a change in distribution of population across the various income groups. Given the average levels and patterns of current demand for people in individual income classes, the post-distribution profile of the aggregate demand has been estimated, as emerging from a change in the population weights.



In specifying the demand vector for a particular income group, we have ignored the variations in metal utensils in terms of use and quality, and have used metal categories only, for simulation purposes. As we have noted earlier, technological coefficients required for measurement of probable change in the employment potential are also worked out by metal categories.

### 5.2 The Simulation Model

Income redistribution has been specified here in terms of such changes in relative sizes of different income groups as could be visualised necessary for a stipulated reduction in the incidence of poverty. Assuming that per capita income and the level and pattern of consumption are given for each income class, the impact of a re-distribution has been measured in terms of differences between the observed profile and the simulated aggregative profile, resulting from the changed population weights. Further, given the technical coefficients for individual metal sub-group of utensils, the effect on technology and employment is visualised through changes in the aggregate demand profile.

In all the variants of redistributive pattern adopted by us a redistribution is accompanied by increase in the average PCE level, and the possibility of a pure redistribution unaccompanied by a change in the PCE has not been considered. We have also not considered the other extreme case of increase in PCE level without

change in income distribution. We refer to the effect of redistribution, with increase in PCE level, as 'total effect' which could be decomposed into an 'income effect' and a 'redistribution effect'.

The notations used in the simulation model applied in the present exercise are explained below:

Let

- $P_i$  = Population size of  $i^{\text{th}}$  PCE class
- $e_i$  = Per capita total expenditure of the  $i^{\text{th}}$  class
- $c_{ij}$  = Per capita expenditure incurred by the  $i^{\text{th}}$  PCE class on  $j^{\text{th}}$  commodity
- $C_j$  = Aggregate demand for  $j^{\text{th}}$  commodity
- $C$  = Aggregate demand for all classes and individual commodities together
- $k_j$  = Capital coefficient for  $j^{\text{th}}$  commodity sector
- $l_j$  = Labour coefficient for  $j^{\text{th}}$  commodity sector
- $k$  = Capital coefficient (aggregative) taking into consideration all the sectors and assuming that the production structure responds to changes in the demand structure
- $l$  = Labour coefficient (aggregative)
- $K$  = Total capital required to produce the output mix representing the current aggregate demand
- $L$  = Total labour input required to produce the output mix representing the current aggregate demand
- $O$  = Suffix denoting the observed situation
- $S$  = Suffix denoting the situation resulting from a simulation

In the first stage of simulation the variation  $p_1$  assumes the value  $p_1(s)$  from the observed  $p_1(o)$ , so that the aggregate demand profiles for the observed and simulated distribution are given by:

$$C_{ij}(O) = (C_{ij} p_1(o)) \quad (1)$$

$$C_{ij}(S) = (C_{ij} p_1(s)) \quad (2)$$

$$C_j(O) = \sum_i C_{ij}(o) \quad (3)$$

$$C_i(S) = \sum_j C_{ij}(s) \quad (4)$$

$$C(O) = \sum_j C_j(o) \quad (5)$$

$$C(S) = \sum_j C_j(s) \quad (6)$$

The impact on technology is measured in terms of change in the aggregative technical coefficients, namely, capital coefficient ( $k$ ) and labour coefficient ( $l$ ), which are expressed as :

$$l = \frac{\sum_j l_j C_j}{\sum_j C_j} \quad (7)$$

$$k = \frac{\sum_j k_j C_j}{\sum_j C_j} \quad (8)$$

The changes in the average values of ' $k$ ' and ' $l$ ', as given by the above expression, from the observed to simulated distribution give an idea of the corresponding change in the technology mix. The impact of redistribution on employment is measured in terms of the difference between labour embodied in production of the items comprising the current demand and that estimated for the simulated demand/production structure, each per unit of population. It may be pointed out here that the above  $p_1(o) - p_1(s)$  simulation



would lead to changes termed as 'total effect'. The income effect is assessed through PCE (o) - PCE (s) approach, using expenditure elasticities for making demand predictions. The 'redistribution effect' has been measured as a residue of the 'total effect' over 'income effect'.

For working out expenditure elasticities, the linear hyperbolic, semi-log, double log and log inverse forms of Engel functions were used on household-wise PCE data for expenditure on metal utensils and the PCE level. The results are shown in Annexure 4. Based on the statistical criteria of maximum value of the coefficient of multiple determination ( $R^2$ ), minimum value of the standard error of the estimate (S.E), significance of the statistic 't' and minimum value of the constant term 'a' taken together, along with the plausibility of economic interpretation, the double log function appears to be the most appropriate amongst the given alternative forms. The expenditure elasticity of demand for metal utensils has, therefore, been adopted to be 1.429 for rural and 1.358 for urban households. Given these estimates of expenditure elasticity ( $\eta$ ), the change in aggregate consumption level per unit of population from  $C(o)$  to  $C'(s)$  is expressed as:

$$C'(s) = \left[ 1 + \eta \left\{ \frac{PCE(s) - PCE(o)}{PCE(o)} \right\} \right] C(o) \dots (9)$$

where  $C'(s)$  refers to the aggregate demand simulated on income growth only.

The premise here is that if the pattern of income distribution



remains unaltered, the inter-item priorities of demand for utensils would change only marginally and much less as compared to the case where income gets redistributed. This is so because not only majority of the people are below the abject deprivation level but also because the overall average PCE level is very near to the level below which the people are deprived of their basic needs. Therefore, we assume here that the inter-metal priorities of aggregative demand would remain unaltered in the pure growth path symbolised as  $PCE(o) - PCE(s)$  approach.

To the extent this hypothesis is tenable, the production technology mix remains unaltered. But the total requirement of capital and capital per unit of population would change linearly with the change in the size of aggregate demand per unit of population. If  $K'(s)$  and  $L'(s)$  denote the total requirements of capital and labour in the event of pure growth without redistribution, then

$$K'(s) = C'(s) K(o)/C(o) \quad (10)$$

$$L'(s) = C'(s) L(o)/C(o) \quad (11)$$

The findings based on empirical examination of these models have been discussed, with particular focus on the impact of income redistribution on demand, technology and employment separately for the rural and urban area in the following paragraphs.

### 5.3 Patterns of Income With and Without Redistribution

The population percentages conforming to the five alternative

objectives of redistribution are shown in Table V.1(R) for rural and Table V.1(U) for the urban area. The percentage of the deprived group (segment 1) works out to be 62.68 for rural and 52.80 for urban areas in case of the observed distribution. Against the alternative A and B, these figures get reduced by half, since 50 per cent of the population in segment 1 gets shifted to the per capita annual expenditure level of Rs.817 or more in rural, and above Rs.1161 or more in the urban parts. Thus the remaining 50 per cent of rural population gets distributed over the sub-class Rs.817-950 and class Rs.950-1250. Some proportion of the urban population gets entry into the sub-class Rs.1161-1250 and the class Rs.1250-1600. Similar is the basis of the population percentages against simulation C and D where entire population presently in segment 1 shifts to segment 2; and E, where only 25 per cent of the poor cross the poverty line. The simulations A and B differ between them as do C and D : while B and D assume a change in income also among the people above poverty, A and C do not. Simulation E also assumes a change in incomes of the higher income groups.

The pattern of income distribution is also depicted in terms of semi-decile population distribution as shown in Annexure 3(R) and Annexure 3(U) for rural and urban areas respectively. These distributions formed the basis for working out the Gini coefficient of concentration, shown in Tables V.2(R) and V.2(U), which also

Table V.1(R)

Observed and Post-redistribution Percentages of Population by  
Expenditure Classes (Rural)

Sl. No.	Per Capita Expenditure Class (Rs/Annum)	Percentage Distribution of Persons					
		Observed	Post-Redistribution				
			A	B	C	D	E
1.	Below 350	5.26	-	-	-	-	-
2.	350-425	9.76	-	-	-	-	2.63
3.	425-500	13.65	1.32	1.32	-	-	5.26
4.	500-600	14.88	6.38	6.38	-	-	9.73
5.	600-750	14.89	10.73	10.73	-	-	13.65
6.	750-950	14.31	52.20	47.16	57.08	52.04	36.44
6.1	750-817	4.24	12.91	12.91	-	-	15.74
6.2	817-950	10.07	39.29	34.25	57.08	52.04	36.44
7.	950-1250	12.37	14.49	13.34	28.04	26.89	11.22
8.	1250-1600	7.91	7.91	12.12	7.91	12.12	12.12
9.	1600-2200	6.35	6.35	7.69	6.35	7.69	7.69
10.	2200 or more	0.62	0.62	1.26	0.62	1.26	1.26
All Classes		100.00	100.00	100.00	100.00	100.00	100.00
Percentage of Popu- lation in segment 1 (1 to 5 <u>plus</u> 6.1)		62.68	31.34	31.34	-	-	47.01

Notes: The alternatives A, B, C, D and E have been explained in the text earlier.



Table V.1(U)

Observed and Post-redistribution Percentages of Population by  
Expenditure Classes (Urban)

Sl. No.	Per Capita Expenditure Class (Rs/Annum)	Percentage Distribution of Persons					
		Observed	Post-Redistribution				
			A	B	C	D	E
1.	Below 350	2.45	-	-	-	-	-
2.	350-425	-	-	-	-	-	-
3.	425-500	2.80	-	-	-	-	2.45
4.	500-600	2.45	2.45	2.45	-	-	2.80
5.	600-750	12.24	4.03	4.03	-	-	2.45
6.	750-950	18.52	7.34	7.34	-	-	12.24
7.	950-1250	27.98	45.45	38.63	53.24	46.42	39.68
7.1	950-1161	14.34	12.58	12.58	-	-	19.66
7.2	1161-1250	13.64	32.87	26.05	53.24	46.42	20.02
8.	1250-1600	18.52	25.69	27.88	31.72	33.91	20.71
9.	1600-2200	12.24	12.24	15.65	12.24	15.65	15.65
10.	2200 or more	2.80	2.80	4.02	2.80	4.02	4.02
All Classes		100.00	100.00	100.00	100.00	100.00	100.00
Percentage of Popu- lation in segment 1 (1 to 6 <u>plus</u> 7.1)		52.80	26.40	26.40	-	-	39.60

Note : The alternatives A, B, C, D and E have been explained  
in the text.



Table V.2 (R)

Aggregative Characteristics of Observed vis-a-vis Simulated  
Distributions (Rural)

Characteristics	Observed Distri- bution	Simulations				
		A	B	C	D	E
Population Percentage						
a. Segment 1(%)	62.68	31.34	31.34	-	-	47.01
b. Segment 2(%)	37.32	68.66	68.66	100.00	100.00	52.99
Share in aggregate total consumption expenditure						
a. Segment 1(%)	41.97	21.77	20.65	-	-	30.83
b. Segment 2(%)	58.03	78.23	79.35	100.00	100.00	69.17
Per capita total annual expenditure						
a. Segment 1(Rs)	536.02	688.16	688.16	-	-	649.23
b. Segment 2(Rs)	1,244.45	1128.95	1206.66	1081.98	1135.34	<del>1292.00</del>
c. All Class	800.43	990.81	1044.17	1081.98	1135.34	990.00
Increase in per capita total annual expenditure over the observed level (%)						
	-	23.78	30.45	35.17	41.84	23.68
Gini Coefficient	0.326	0.187	0.212	0.136	0.160	0.250

Note : The Gini coefficients are based on semi-decile population distribution (Annexure - 3 (R)).

Table V.2(U)

**Aggregative Characteristics of Observed vis-a-vis Simulated  
Distributions (Urban)**

Characteristics	Observed Distri- bution	Simulations				
		A	B	C	D	E
Population Percentage						
a. Segment 1(%)	52.80	26.40	26.40			39.60
b. Segment 2(%)	47.20	26.40	26.40	100.00	100.00	<del>60.40</del>
Share in aggregate total consumption expenditure						
a. Segment 1(%)	34.40	16.87	16.04	-	-	25.09
b. Segment 2(%)	65.60	83.13	83.96	100.00	100.00	74.91
Per capita total annual expenditure						
a. Segment 1(Rs)	800.73	877.08	877.08	-	-	876.58
b. Segment 2(Rs)	1,708.14	1,549.68	1,646.75	1,472.06	1543.51	1715.80
c. All Classes (Rs)	1,229.05	1,372.12	1,443.57	1,472.06	1543.51	1383.48
Increase in per capita total annual expenditure over the observed level (%)						
	-	11.64	17.45	19.77	25.59	12.56
Gini coefficient	0.261	0.194	0.215	0.137	0.158	0.239

Note : The Gini coefficients are based on semi-decile population distribution (Annexure - 3(U)).

reveal certain other characteristics of the alternative kinds of redistribution envisaged for rural and urban areas. As indicated earlier, we have a process of redistribution where average PCE level is bound to increase. The percentage increase in simulated PCE level, over the observed PCE level, ranges between 23.68 and 41.84 among the alternatives for the rural area and that between 11.64 and 25.59 in case of the urban area. These figures along with the proportion of population in segment 1 show the measures in which the redistribution takes place. A marked difference is noticed in the percentage increase in PCE level between rural and urban areas for each of the simulation alternatives. This is because of the fact, as our sample shows, the relative size of segment 1 in urban areas is smaller to that in the rural areas.

#### 5.4 Redistribution and Magnitude of Demand for Metal Utensils

Total demand per unit of population increases most by 49.50 per cent in rural and 30.28 per cent in urban areas, in the case of simulation D. The figures corresponding to simulations C, B, E and A are 36.86, 35.30, 27.84 and 22.58 respectively. Similar order of changes is found in urban areas, 23.69, 21.85, 16.30 and 15.26 per cent for simulation C, B, E and A respectively. The increase in simulated demand over the observed demand for utensils of particular metal is found to be the highest in the case of stainless steel followed by ~~tin~~ brass, aluminium and iron in that order, in rural and, in the case of brass followed by



Table V.3 (R)

Changes in Demand Profile Due to Redistribution With Growth  
(Rural)

(Aggregate demand for 100 population in Rupees)

Metal Category	Observed Distri- bution	Simulation				
		A	B	C	D	E
Iron	25.20	28.07 (11.39)	26.80 (6.35)	30.94 (22.78)	29.66 (17.70)	25.53 (1.31)
Aluminium	58.59	69.11 (17.96)	65.84 (12.37)	76.47 (30.52)	73.20 (24.94)	62.75 (7.10)
Brass	59.57	74.48 (25.09)	87.34 (46.69)	83.57 (40.36)	96.42 (61.94)	82.43 (38.44)
<u>Phool</u>	-	-	-	-	-	-
Stainless Steel	6.18	7.03 (13.75)	10.91 (76.54)	6.47 (4.69)	10.35 (67.48)	10.80 (74.76)
Others	71.91	92.72 (28.94)	108.70 (51.16)	105.59 (46.84)	121.58 (69.07)	101.55 (41.22)
Total	221.42	271.41 (22.58)	279.59 (35.30)	303.04 (36.86)	331.21 (49.58)	283.06 (27.84)

Note: Figures in brackets show percentage increases in the value of indicators from observed to simulated distribution situation.



Table V.3(U)Changes in Demand Profile Due to Redistribution With Growth (Urban)

(Aggregate Demand per 100 population Rupees)

Metal Category	Observed distrib- ution	Simulation				
		A	B	C	D	E
Iron	66.58	68.72 (3.21)	69.92 (5.02)	69.17 (3.89)	70.37 (5.69)	69.16 (3.88)
Aluminium	82.62	89.93 (7.55)	86.31 (3.22)	92.48 (10.60)	88.96 (6.39)	85.81 (2.62)
Brass	69.09	93.65 (35.55)	94.28 (36.46)	107.82 (56.06)	108.45 (56.97)	86.57 (25.30)
<u>Phool</u>	9.13	9.30 (1.86)	11.89 (30.23)	9.30 (10.86)	11.89 (30.23)	11.89 (30.23)
Stainless steel	61.77	63.05 (2.07)	73.11 (18.36)	63.63 (3.01)	73.70 (19.31)	72.40 (17.21)
Others	101.79	186.00 (23.78)	140.88 (38.40)	141.22 (38.74)	156.09 (53.35)	128.88 (26.61)
Total	390.98	450.65 (15.26)	476.39 (21.85)	483.62 (23.69)	500.36 (30.20)	454.71 (16.30)

Notes: Figures in brackets show percentage increase in the value of indicators from observed to simulated distribution situations.

'others', phool, stainless steel, aluminium and iron, in that order in urban areas. Different simulations, of course, yield varying effect on demand for different metals, but variations among different simulations are found to be rather low in case of iron and aluminium and high in case of brass and stainless steel. This supports the hypothesis of the existence of a hierarchy of the utensils by metal contents, as pointed out earlier in terms of the basic need characteristics in which iron and aluminium would rank higher than brass and stainless steel.

The minimum percentage increase in demand for iron and aluminium correspond to simulation E, those for brass and 'others' to A and for stainless steel to C in case of rural households. These differences are mainly on account of two factors - the measure in which the people below poverty are uplifted and whether or not the income of the higher PCE classes increases - given the inter PCE class need differences. Demand for iron and aluminium utensils, that are primarily basic need oriented for poor, is responsive mainly to the extent to which redistribution brings population in segment 1 upto segment 2; in simulation E, only 25 per cent of poor are lifted above poverty as against 50 per cent in cases of A and B and 100 per cent in case of C and D. The demand for brass utensils increases due to extent of redistribution within and between the population segments 1 and 2. Unlike others, the demand for stainless steel is responsive mainly to redistribution among



higher income groups. The behaviour of urban households - Table V.3 (U) - is similar as observed in case of rural households except that a percentage increase in the aggregate demand as a result of redistribution is relatively less marked for urban households. This reflects the lower incidence of poverty in urban areas than in rural areas.

### 5.5 Changes in Metal Composition of Demand

We find that the relative importance of the various metal categories of utensils in the current demand only marginally changes from the observed pattern, as a result of simulated redistribution (Table V.4). Yet it is seen that iron and aluminium would claim a somewhat smaller percentage of expenditure on metal utensils in any of the simulated distributions both in rural and urban areas, as compared to their observed share in the current expenditure. But brass and 'others' would claim a larger share in all distributions simulated, than currently observed. Stainless steel would claim a higher share than observed in situation B, D, E and lower in A and C in rural areas, and higher in E, and lower in others in urban areas. Phool would claim a higher share than observed in B, C and E and lower in A and D in urban areas only.

Thus while the demand for iron and aluminium seems to have by and large a negative, though small, responsiveness to the redistributions

Table V.4

Changes in Metal Composition of the Current Demand of Metal Utensils Due to Redistribution with Growth

(Percentage distribution of value by metal categories)

Metal Category	Observed	RURAL					Observed	URBAN				
		Simulated						Simulated				
		A	B	C	D	E		A	B	C	D	E
Iron	11.38	10.34	8.95	10.21	8.96	9.02	17.03	15.25	14.68	14.30	13.82	15.21
Aluminium	26.46	25.46	21.98	25.23	22.10	22.17	21.13	19.96	18.12	17.12	17.47	18.87
Brass	26.89	27.44	29.15	27.58	29.11	29.12	17.67	20.78	19.79	22.29	21.29	19.04
Phool	-	-	-	-	-	-	2.34	2.06	2.49	3.97	2.31	2.62
Stainless steel	2.79	2.59	3.64	2.14	3.12	3.82	15.80	13.99	15.35	13.16	14.47	15.92
Others	32.48	34.16	36.28	34.84	36.71	35.88	26.03	27.96	29.57	29.20	30.64	28.34
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00



envisaged, demand for brass utensils and utensils of 'other' metals is likely to increase sharply particularly in the event of rise in incomes of people in segment 2 in the rural areas and of those in segment 1 in the urban areas. Demand for stainless steel utensils also seems particularly responsive positively to the rise in incomes of those in the above poverty bracket.

#### 5.6 Redistribution, Technology and Employment

The indicators used for depicting the change in technology mix in the metal utensil production are labour coefficient, (average number of labour days embodied directly per value unit of the product mix), capital coefficient (average amount of productive capital required per value unit of the product mix) and capital intensity defined as ratio of capital to labour. The Tables V.5 (R) and V.5(U) give these indicators for rural and urban samples.

The average amount of productive capital required to produce Rs.100 worth of the simulated basket of metal utensils increases over the observed one by less than 1 per cent in rural and less than even 0.4 per cent in the urban areas. Similarly labour requirement per value unit of the product mix, does not show any significant change from the observed to the simulated demand structure. The range of capital intensity is also very small across the observed and simulated distribution situations in case of rural and still smaller for the urban areas. But the total labour and capital requirements for production of the basket of goods demanded per

Table V.5(R)Changes in Technology and Employment Potential in Metal Utensils Sector Due to Redistribution with Growth (Rural)

Indicators	Observed Distri- bution	Simulation				
		A	B	C	D	E
Investment require- ment for :						
a. Annual produc- tion worth Rs.100 (M)	46.70	49.97 (0.58)	47.02 (0.69)	46.95 (0.54)	46.97 (0.58)	47.09 (0.84)
b. Per 100 popula- tion	103.40	127.48 (23.29)	140.86 (36.23)	142.29 (37.61)	155.68 (50.56)	133.14 (28.76)
Mandays required for the production worth Rs.100 (No.)	0.9351	0.9392 (0.65)	0.9297 (0.36)	0.9416 (0.91)	0.9321 (-0.11)	0.9290 (-0.44)
Index of capital intensity (1)/(2) worth the observed distribution situa- tion at 100)	100.00	99.92	101.05	99.63	100.69	101.28
Mandays required for production of utensils in current demand per 100 population (No.)	2.0661	2.5491 (23.38)	2.7852 (34.80)	2.8535 (38.11)	3.0896 (49.54)	2.6296 (27.27)

- Note : 1. The production refers to the basket of metal utensils for which current demand would exist.
2. The figures in brackets show percentage increase (+) or decrease (-) in the value of the indicators from observed to simulated distribution situation.



Table V.5(U)Changes in Technology and Employment Potential in Metal Utensil Sector Due to Redistribution With Growth (Urban)

Indicators	Observed distrib- ution	Simulation				
		A	B	C	D	E
Investment require- ment for :						
a. Annual production worth Rs.100 (Rs)	45.17	45.21 (0.09)	45.13 (-0.09)	45.34 (0.38)	45.27 (0.22)	45.07 (-0.22)
b. Per 100 popula- tion (Rs)	176.59	203.72 (15.36)	214.99 (21.75)	219.30 (24.19)	230.58 (30.57)	204.94 (16.05)
Mandays required for the production worth Rs.100 (No.)	0.8567	0.8632 (0.76)	0.8550 (-0.20)	0.8680 (1.32)	0.8602 (0.41)	0.8526 (-0.48)
Index of capital intensity (1)/(2) with observed distribution situation at 100)	100.00	99.33	100.11	99.07	99.81	100.26
Mandays required for production of utensils in current demand per 100 population (No.)	3.3497	3.8902 (16.14)	4.0729 (21.59)	4.1987 (25.35)	4.3814 (30.80)	3.8770 (15.74)

Note : 1. The production refers to the basket of metal utensils for which current demand would exist.

2. The figures in brackets show percentage increase (+) or decrease (-) in the value of the indicators from observed to simulated distribution situation.



unit of population show sharp variations across different distribution situations in both rural and urban areas. It is interesting to note that the percentage changes in values of these indicators from observed to simulated distribution situations are of the same order as the percentage changes in the demand are shown in Table V.3(R) for rural and Table V.3(U) for urban households.

The above observation clearly brings out that although there are inter-metal differences among technologies of utensil production, the average technological coefficients remain almost unchanged through the simulations involving varying degrees of redistribution and upliftment of the poor above the poverty level. Second, the labour and capital requirements per value unit of the aggregative demand are only marginally responsive to redistributions; they vary mainly in proportion with variations in the aggregate demand. As such the factor requirements tend to change mainly in accordance with the change in the size of demand rather than the structure of demand. This applies to both labour and capital uses in the metal utensil sector. By that token, so long as availability of labour is assured, which may be taken for granted in the Indian context, a redistribution would lead to increase in employment in almost the same proportion as the increase in aggregate demand.

### 5.7 Total and Net Effects of Redistribution

Tables V.6(R) and V.6(U) present the increase in PCE, change in aggregate demand for metal utensils, decomposed in terms of income and redistribution effect, and change in capital and labour requirements of the production of demanded metal utensils, again decomposed in income and redistribution effects. Given the high value of expenditure elasticity of demand for metal utensils, 1.429 for the rural and 1.358 for urban areas, on the one hand, and invariability of labour and capital coefficients across different simulations, on the other, the effect on demand, capital and labour requirements, vary among different simulation situations in proportion to the respective growth in PCE stipulated in each simulation. The other and more important, point to be noted is that all increase in demand and other variables is accounted for by increase in PCE level; redistribution is, in fact, found to produce a negative effect on total demand and therefore also on capital and labour requirements. In other words, the effect would have been higher, if simulations did not envisage any redistribution at all. What in effect it implies is that since a major part of the demand for metal utensils in value terms comes from the higher income groups, the simulation that envisages not only a high income growth in general, but of those above poverty line in particular, would lead to the largest positive effect on the demand and other related variables. If the growth in income has a large redistributive

Table V.6(R)

Total Income and Net Redistribution Effects of the Income  
Redistribution (Rural)

Description	Simulations				
	A	B	C	D	E
1. Percentage increase in the PCE level over the observed situation (%)	23.78	30.45	35.17	41.84	23.68
2. Percentage change in aggregate metal utensil demand value per unit of population - Total effect (%)	15.26	21.85	23.69	30.28	16.30
2.1 Income effect (%)	33.98	43.51	50.25	59.79	33.84
2.2 Net redistribution effect (%)	(-) 11.40	- 8.21	-13.59	-10.21	- 6.00
3. Percentage change in capital requirement per unit of population - Total effect (%)	23.29	36.23	37.61	50.56	28.76
3.1 Income effect (%)	33.98	43.51	50.25	59.79	33.84
3.2 Net redistribution effect (%)	- 10.69	-72.28	-12.64	- 9.23	- 5.08
4. Percentage change in labour mandays requirement per unit of population - Total effect (%)	23.38	34.80	38.11	49.54	27.27
4.1 Income effect (%)	33.98	43.51	50.25	59.79	33.84
4.2 Net redistribution effect (%)	- 10.60	- 8.71	-12.14	-10.25	- 6.57

Note: The 'total effects' referred to here are the same as shown in Table V.3(R) and V.4(R). The income effect on size of demand and capital and labour requirements have been worked out by using the expenditure elasticity of demand, based on OCE (o) - PCE (s) approach as described in the sub-section 5.4. The pure redistribution effect has been worked out by subtracting the latter from the former.



Table V.6(U)

**Total Income and Net Redistribution Effects of the Income  
Redistribution (Urban)**

Description	Simulations				
	A	B	C	D	E
1. Percentage increase in the PCE level over the observed situation (%)	11.64	17.45	19.77	25.59	12.56
2. Percentage change in aggregate metal utensil demand value per unit of population - Total effect (%)	15.26	21.85	23.69	30.28	16.30
2.1 Income effect (%)	15.81	23.70	26.85	34.75	17.06
2.2 Net redistribution effect(%)	-0.55	-1.85	-3.16	-4.47	-0.76
3. Percentage change in capital requirement per unit of population - Total effect (%)	15.36	21.75	24.19	30.57	16.05
3.1 Income effect (%)	15.81	23.70	26.85	34.75	17.06
3.2 Net redistribution effect(%)	-0.45	-1.95	-2.66	-4.18	-1.01
4. Percentage change in labour mandays requirement per unit of population - Total effect (%)	16.14	21.59	25.35	30.80	15.74
4.1 Income effect (%)	15.81	23.70	26.85	34.75	17.06
4.2 Net redistribution effect(%)	-0.33	-2.11	-1.50	-3.95	-1.32

Note : The 'total effects' referred to here are the same as shown in Tables V.3(U) and V.5(U). The income effects on size of demand and capital and labour requirements have been worked out by using the expenditure elasticity of demand, based on PCE(o) - PCE(s) approach as described in the sub-section 5.4. The pure redistribution effect has been worked out by subtracting the latter from the former.

component, in favour of the poorer groups, even a rise in average income level of those groups would produce a smaller total effect on demand for metal utensils and employment in their production. By implications, a pure redistribution of income from the non-poor to poor group, will lead to a decline in 'Value' demand, as the component of that income going to purchase metal utensils would be lower when the income is with the poor as compared to when it is with the non-poor.

A word may be said here about the time dimension that changes envisaged in the above analysis involve. For, it would be important from the policy point of view to examine what may possibly be the time period required for growth of incomes to the stipulated levels, given the growth rates; or the growth rate, if the time limit is specified. Average per capita income level in India has been growing at around only one per cent annually during the last two decades, it would probably take a pretty long time to achieve the stipulated per capita income level. As such the increase in per capita income growth rates becomes almost absolutely necessary to visualise any marked change in the income distribution. This process has to be accompanied by a frontal attack on the problem of poverty both as a condition for growth and as an immediate necessity.

Table V.7 shows the required growth rates of average PCE level to achieve the levels stipulated in different simulations during

Table V.7

Alternative PCE growth Rates for Achieving the Levels  
Stipulated in the Simulations

Description	Simulations				
	A	B	C	D	E
1. Percentage annual growth rate in rural per capita income required to catch up the stipulated level in a period of :					
a. 5 years (%)	4.3	5.5	6.2	7.2	4.3
b. 10 years (%)	2.1	2.7	3.1	3.5	2.1
c. 15 years (%)	1.4	1.8	2.1	2.3	1.4
2. Percentage annual growth rate in urban per capita income required to catch up the stipulated level in a period of :					
a. 5 years (%)	2.2	3.3	3.7	4.7	2.4
b. 10 years (%)	1.1	1.6	1.8	2.3	1.2
c. 15 years (%)	0.7	1.1	1.2	1.5	0.8



different periods of time for rural and urban areas. It shows that, in the background of the past performance of the Indian economy, a five year period appears to be very short at least for the rural area with a view to making any considerable dent on inequality and poverty. Alternatively, if we have a uniform policy of increasing the per capita income growth rate to twice or thrice of the existing rate during a period of ten years, the urban households are likely to gain more than their rural counterparts, while the crux of the problem lies more in the rural areas. As such, per capita income growth rate aimed at, should be relatively higher for rural areas. Considering the feasibility of growth rates in the background of the past experience, it would appear that it is perhaps not beyond the capacity of the economy to make a considerable dent on the problems of inequality and poverty over a period of 15 years in rural and 10 years in urban areas. For, the PCE growth rates implied in simulations C and D which envisage shift of all those below poverty line above it, compute to 2.1 and 2.3 per cent in the rural over a 15 year period and 1.8 and 2.3 over a period of 10 years in the urban areas. These rates are higher than achieved in the past, yet do not look beyond the realm of attainability.

## Chapter VI : Conclusion

Let us now recapitulate the analysis and findings of the previous chapters with a view to summarising the results and drawing possible conclusions and implications on income distribution-technology-employment interrelationships in the case of metal utensils, in particular and on the presumed pattern of these interrelationships in a 'basic-need' framework, in general. It needs to be emphasised here that while a study of consumption behaviour, demand pattern, and supply condition of a commodity constitutes an academically interesting exercise in itself, the basic purpose of such an exercise in the present case has been to utilise the results for drawing implications for the fulfillment of basic need requirements in respect of the commodity under study. In this context, an examination of the attributes of the commodity itself becomes important for examining its character as a basic need item, the basic need and non-basic need components of its consumption structure, and supply condition of the commodity, particularly of its basic need components. Results of such examination are then used to work out the effects that changes in levels and distribution of income of different magnitudes, would produce on the demand pattern, and production conditions with particular focus on the fulfillment of basic needs on the one hand, and creation of employment with a view to augmenting the incomes and purchasing power, particularly of the deprived groups of population.



On an a priori basis, metal utensils can be considered as an essential item of household consumption, and to that extent, a component of the basic need baskets of goods. It is also possible to visualise directly on an empirical and normative basis, the minimum level of utensil stock to fulfill the basic need requirements of cooking, serving and storage, the three basic functions of utensils. But application of a basic theoretical tenet of consumption behaviour of a commodity constituting a basic need item, that is, expenditure on it should have inverse relation with rise in income beyond a certain level, renders the basic need character of metal utensils doubtful. The expenditure on metal utensils both in absolute terms and as percentage of total expenditure, is found to increase more than proportionately with the rise in total household and per capita expenditure continuously. To a certain extent it is accounted for by the larger number of utensils, particularly of the serving category, purchased by households at high PCE levels, but, to a larger extent by the switch to the superior quality of utensils with increasing income levels. The basic criterion on which quality difference could be gauged consists in the metal base of utensils, which also corresponds to the relative prices per unit of weight. Iron, aluminium, brass, phool and stainless steel stand in ascending order of quality on this basis.

Thus the possibility of increasing stock of metal utensils,



particularly of serving category, to increasingly non-essential levels, on the one hand, and of qualitative switchover to higher priced metal categories render metal utensil from an apparently basic need item to a commodity of strong non-basic need character, which is reflected in a much higher than unity elasticity of its expenditure. It has not been possible to analyse the consumption behaviour in respect of metal utensils in disaggregated categories of use and metal base. But considerable empirical and descriptive evidence has been thrown up by our study to show that cooking utensils, and iron and aluminium utensils come quite close to qualifying as basic need items. And it is these that make the major part of the stock and current purchases of the people in PCE ranges below what can be considered a level of minimum need fulfillment. While the value of total stock as well as current purchases of metal utensils show a continuously increasing percentage of total household expenditure, the value of stock and current purchases of cooking utensils and of iron and aluminium utensils declines as a percentage of household expenditure as well as of total expenditure on metal utensils, with increasing PCE levels.

Cooking utensils and a minimum stock of serving and storage utensils, mainly made of iron and aluminium would thus make an item of basic need. They do not show the same degree of basic need characteristics as food items, but certainly rank higher than

most non-food items, as an essential part of the basic need basket of goods. It is with this conviction that we carried out an exercise to identify the magnitude and composition of the stock of metal utensils required to fulfill the basic needs. Using the latest available estimates of the income level identified as cut-off point for poverty estimates, we find that the households with per capita expenditure level which is presumed to be just enough to meet the minimum basic needs have a stock of metal utensils worth Rs.197 in the rural and Rs.416 in the urban areas. This accordingly is taken to be the value magnitude of the metal utensils constituting the requirements of basic need fulfillment. The number of use category and metal composition of the estimated basic need basket of metal utensils have also been identified on an empirical basis. There is considerable evidence to suggest that the estimated level of basic need component of metal utensils does provide a cut-off point for a qualitative difference in the consumption behaviour between the households below and above this level, in terms of the use category, metal category and prices of metal utensils in stock and under current purchase.

Having assessed metal utensils as a basic need commodity and identified its consumption level that would meet the basic need requirements of a household, our next task was to examine the supply conditions of metal utensils in general and those constituting basic need item in particular. The examination required a study of production conditions, on the one hand, and marketing

on the other. In the former case, we looked into the processes and economics of production with a view to identifying constraints on production in terms of supply of material and technology, on the one hand, and assessment of the relative capital intensity and employment potential, to be used in subsequent analysis, on the other. This analysis was done on the basis of inter-metal comparison. Availability of material is found to be posing a serious constraint in the production of brass and phool utensils. Such constraint is less pronounced in the case of other metals, but the emerging demand pattern flowing from the pattern of distribution of growing incomes, is going mainly to favour stainless steel, and, therefore, despite high prices, production of stainless steel units has grown fastest. Aluminium units rank second and iron units third in terms of growth of output in the recent past.

It is, however, not the absolute non-availability of metal utensils but their rising prices, and low incomes that act as constraint in their consumption upto the level of fulfillment of basic requirements. Steep rise in prices has posed this problem for all consumers but more particularly for those in the low income groups. In addition the prevalent marketing practices seem to put the households below the fulfillment of basic needs and the rural consumers at a distinct disadvantage. It is seen that the mark-up in consumer prices over the manufacturers' price is high in case of metal categories of utensils which are



consumed by the poor, than in case of those consumed by the non-poor. Brass and stainless steel utensils which have little relevance for the fulfillment of basic needs are purchased by retailers directly from the manufacturers and therefore, have only two margins of profit added to the cost, the manufacturers' and the retailers' margin. Iron and aluminium utensils more often pass through wholesalers, thus adding one more margin to the consumer price. Secondly, the utensils purchased by rural consumers mostly have the manufacturers', wholesalers' and retailers' margin added to the prices, whereas the wholesalers' margin is absent in majority of cases in the urban prices. This leads to a substantial difference between the urban and rural consumer prices of metal utensils, leading to a significant disadvantage to the rural consumers. Thus the prevalent marketing and distribution system of metal utensils militates generally against the supply of metal utensils against the fulfillment of basic needs of the poorer groups of population.

Inter-metal differences in technology of production of utensils are significant so far as capital and labour coefficients are concerned. Stainless steel, aluminium, brass and iron and phool stand in the given descending order so far as capital requirements per worker are concerned. The labour requirements per unit of output are the lowest in stainless steel, followed by iron, brass, aluminium and phool in the ascending order. Differences are large in magnitude as between stainless steel on the

one hand, and phool on the other : employment per Rs.100 of capital estimates to 12 mandays in phool, and only 0.61 mandays in stainless steel; and, per Rs.100 of output to 1.67 mandays in phool and 0.33 in stainless steel. Differences among the other three metals are not so large, though quite significant. Mandays of employment per Rs.100 of capital ranges between 1.94 in aluminium and 3.35 in iron; and per Rs.100 of output between 0.70 in iron and 1.12 in aluminium. The metals which are mostly used for basic need group of utensils, iron and aluminium, thus have reasonably high labour intensity, but lower productivity as compared to stainless steel.

These technological differences, however, do not lead to significant differences on the overall technology and employment situation, among the alternative growth and distribution paths adopted for our exercise on the impact on income distribution on demand, technology and employment in the metal utensils sector. For, incremental incomes with alternative pattern of their distribution, in terms of various proportions of poor going up to the level of basic need satisfaction with varying assumptions regarding changes in the incomes of those already above poverty line, are found to alter the metal composition of demand for metal utensils only marginally. Thus despite considerable inter-metal differences in technology, the overall technological ratios in the metal utensils production, are not very much different in the simulated from the observed one.

Given the relative invariability of the aggregate technical coefficients across the alternative distribution situations, the total change in the volume of demand for metal utensils and employment generated in their production, is solely dependent on the change in levels of per capita expenditure. A higher than unit elasticity of expenditure, as is found in the case of metal utensils, leads to a change in demand and employment generation proportionately higher than the change in per capita expenditure level. But a redistribution of income in favour of those below poverty line is found to have a negative impact on the total demand and employment generation in the metal utensils sector. This is because a larger proportion of a given amount of incomes in the hands of the relatively higher income groups is likely to be spent on metal utensils than if the same income is distributed among the poor, both because the rich buy qualitatively superior and, therefore, more valuable utensils; and the poor had other competing needs also for the expenditure of additional income. The conclusion one draws from this finding is somewhat perplexing from the viewpoints of poverty removal, fulfillment of basic needs and creation of employment. For increasing supply and creation of employment, redistribution has no significance, in fact, it has a negative impact. Growth in incomes would lead to increase in demand for metal utensils, more particularly from the higher income groups; increase in production, more or less in the existing pattern would follow,



subject, of course, to the conditions of availability of raw material; and employment would increase more or less in proportion to the increase in total demand. It is likely that a somewhat increasing proportion of utensils with higher non-basic need elements would characterise the pattern of incremental demand and production. Even a redistribution of income in favour of the poor either directly or through employment creation, would not lead to a shift in demand and production in favour of basic need fulfillment or in favour of higher labour-intensity and greater employment in the production of metal utensils. In fact, such redistribution is likely to lead to a slower rate of growth in demand, production and employment, given the growth rate of incomes.

One of the basic premises of the model envisaging a sequence of distribution-demand-technology-employment, for generating incomes for the poor and production of goods constituting basic need, thus does not hold in the case of the commodity studied by us, namely, metal utensils. Part of the problem lies in the nature of the commodity itself : it is not a very important item of consumption expenditure and elasticity of its expenditure suggests a strong non-basic need element in its consumption. Therefore, the conclusion drawn on the basis of the present analysis need not necessarily be valid for other basic need commodities. There are, however, at least two propositions that can be generally advanced on this basis, which make the operational validity

of the strategy implied in the basic-need model rather doubtful. First, the strategy of generating incomes for the poor through employment in the production of goods consumed by the poor themselves, may very often prove rather too restrictive and inoperative. Metal utensils, of course, is a minor item of consumption and production, but even here it looks that many poor may get incomes through employment in the production of utensils of non-essential variety, because it is the production of latter that is likely to expand. The situation may be found to be somewhat similar in a large number of commodities which have both basic-need and non-basic need characteristics, and also for the entire group of basic need commodities and the non-basic need commodities. To this extent the 'closed' character of the model would make it highly unstable. Generation of employment for removal of poverty and inequality is possible mainly through expansion of production and very little through the manipulation of technology. The existing pattern of asset and income distribution would generate such an expansion mostly in the non-basic sector of commodities. Thus a redistribution of income might take place, but the supply of basic need goods may not be forthcoming. Secondly, a drastic redistribution of incomes, to begin with, could theoretically be expected to alter the pattern of demand and production significantly in favour of the production of basic need categories of goods. But as we emphasised earlier, it is neither very useful at very low level of incomes, such as

in India, nor is it feasible in the given socio-political framework. Our analysis goes further to prove its futility as an instrument for the fulfillment of basic needs. In fact, it is found to dampen the total demand and employment effect that a given rate of growth of incomes may produce. While it is well recognised that growth per se does not lead to removal of poverty and reduction in equality in an economy primarily based on private production and consumers' sovereignty, our analysis suggests that redistribution will also not make effect dent on these problems, unless it accompanies a sufficiently high rate of growth of incomes.



Annexure IMetal Base of Different Utensils

Sl. No.	Name of Utensils	Metal Base
<u>COOKING UTENSILS</u>		
1.	Batuli	<u>Phool</u> , Kaskut
2.	Pateeli/Pateela	Aluminium, <u>Phool</u> , Kaskut, Copper
3.	Kettle	Aluminium, Brass
4.	Bhagona	Aluminium, Brass, Stainless Steel
5.	Karhai	Iron, Aluminium, Brass
6.	Tawa	Iron, Brass
7.	Frying Pan	Iron, Aluminium, Stainless Steel
8.	Deep Frying Pan	Iron, Aluminium, Stainless Steel
9.	Cooker/Pressure Cookers	Aluminium, Stainless Steel
<u>COOKING ACCESSORIES</u>		
10.	Karchhul/Chamcha	Iron, Aluminium, Brass, Stainless Steel
11.	Sansi/Chimta	Iron, Stainless Steel
<u>SERVING UTENSILS</u>		
12.	Thali	Aluminium, Brass, <u>Phool</u> , Kaskut, Stainless Steel
13.	Bowl	Copper, Aluminium, Brass, <u>Phool</u> , Kaskut, Stainless Steel
14.	Plate/Saucer	Aluminium, Brass, Stainless steel

Sl. No.	Name of Utensils	Metal Base
15.	Tumbler	Aluminium, Brass, <u>Phool</u> , Stainless Steel
16.	Tumbler	Aluminium, Brass, <u>Phool</u> , Kaskut
17.	Cups/Mugs	Stainless Steel
18.	Jug	Aluminium, Stainless Steel
19.	Tray	Iron, Aluminium, Stainless Steel
<u>SIRVING ACCESSORIES</u>		
20.	Spoon/Fork/Knife	Aluminium, Brass, Stainless Steel
<u>CARRYING/STORAGE</u>		
21.	Milk Carrying/ Storage (covered jars)	Aluminium, Brass, Stainless Steel
22.	Cans	Iron, Brass
23.	Drums	Iron, Brass
24.	Kalash	Brass, <u>Phool</u> , Kaskut
25.	Tiffin carrier/Box	Aluminium, Stainless Steel

Note : Phool is an alloy of tin copper and nickel. Kaskut is a mix of metal scraps including phool scraps.

Annexure 2

Types of Utensils as named locally by their close proximity with commonly recognised utensils and/or by their uses

1. Batuli      A round tumbler shaped utensil, generally of 2-5 litre capacity, used for boiling pulses, vegetables and also rice.
2. Pateeli/  
Pateela      Having similar use batuli, it slightly differs in shape. Distinction between Pateeli and Pateela is only of size, the former being as big as a batuli.
3. Bhagona      A substitute of batuli, mostly used for boiling rice, pulses, vegetables and milk. It is a round flat based utensil with walls raised usually to 5-10 inches.
4. Karhai      A deep frying pan shaped as three-fourths of a hemisphere.
5. Tawa      A frying pan, relatively less hollow than Karhai.
6. Karchhul      A flat edged spoon with sufficiently long handle, used for overturning the pieces of food being fried or for stirring rice and vegetables being fried.
7. Chamcha      A big size spoon with sufficiently low handle, used for stirring pulses and arried vegetables.
8. Sansi      Pincer, used for gripping things.
9. Chinta      Turning fork type of equipment, usually made thin iron, held between thumb and fingers for gripping bread and other things.
10. Thali      A round flat-based utensil with edge raised usually from 1 to 2 inches, used for serving meals.
11. Tumbler      The term used in this context is to identify metal utensils that are used mainly for drinking purposes.



Annexure 3(R)Distribution of Aggregate Consumption Expenditure by Semi-decile Groups of Population (Rural)

Sl. No.	Cumulative percentage of population	Cumulative percentage of expenditure					
		Observed	Post-redistribution				
			A	B	C	D	E
1	5.00	1.98	2.70	2.56	3.94	3.76	2.18
2	10.00	4.35	5.78	5.78	5.49	7.93	4.74
3	15.00	6.92	9.17	8.70	11.96	11.39	7.56
4	20.00	9.69	12.74	12.09	16.02	15.27	10.65
5	25.00	12.67	16.68	15.87	20.11	19.16	13.95
6	30.00	15.79	20.70	19.64	24.22	23.10	17.43
7	35.00	19.14	25.05	23.77	28.35	27.05	21.27
8	40.00	22.71	29.42	27.94	32.49	31.04	25.16
9	45.00	26.43	33.82	32.16	36.68	35.08	29.23
10	50.00	30.42	38.26	36.41	40.91	39.15	35.51
11	55.00	34.72	42.70	40.67	45.18	43.60	37.91
12	60.00	39.34	47.18	44.97	49.86	48.36	42.40
13	65.00	44.45	51.71	49.31	54.85	53.15	46.98
14	70.00	49.99	56.45	54.45	59.88	58.03	51.95
15	75.00	56.06	61.86	59.70	64.95	62.94	57.50
16	80.00	62.67	67.35	65.27	70.06	68.06	63.57
17	85.00	69.96	72.93	71.93	75.21	74.19	69.55
18	90.00	78.35	79.97	78.68	81.65	80.40	77.52
19	95.00	88.27	88.42	88.02	89.39	88.98	87.37
20	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Percentage of population in segment 1		62.68	41.34	31.34	-	-	67.01
Gini coefficient		0.3261	0.1871	0.2124	0.1364	0.1597	0.2498

Note: The alternatives A, B, C, D and E are explained in Chapter V.

## Annexure 3(U)

**Distribution of Aggregate Consumption Expenditure by Semi-decile Groups of Population (Urban)**

Sl. No.	Cumulative Percentage of Population	Observed	Cumulative Percentage of Expenditure				
			Post-redistribution				
			A	B	C	D	E
1	5.00	1.53	2.33	2.22	3.98	3.80	1.90
2	10.00	4.09	5.29	5.03	7.99	7.62	4.68
3	15.00	6.96	8.54	8.12	12.03	11.47	7.77
4	20.00	9.83	12.17	11.57	16.08	15.34	10.87
5	25.00	13.03	15.85	15.08	20.16	19.23	14.47
6	30.00	16.57	20.03	19.05	24.24	23.14	18.10
7	35.00	20.24	24.33	23.14	28.34	27.08	21.75
8	40.00	23.95	28.68	27.28	32.47	31.04	25.44
9	45.00	28.00	33.06	31.44	36.62	35.02	29.75
10	50.00	32.11	37.46	35.63	40.80	39.46	34.09
11	55.00	36.55	41.91	40.21	45.16	44.06	38.46
12	60.00	41.38	46.41	45.13	50.04	48.68	42.87
13	65.00	46.32	51.63	50.08	54.92	53.32	48.00
14	70.00	51.90	56.89	55.07	59.82	58.01	53.17
15	75.00	57.70	62.14	60.11	64.71	62.72	58.40
16	80.00	63.58	67.40	65.17	69.62	67.45	63.68
17	85.00	69.50	72.67	72.56	74.53	74.35	71.38
18	90.00	78.31	80.59	80.09	81.91	81.39	79.24
19	95.00	87.20	88.56	87.67	89.33	88.47	87.14
20	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Percentage of population in Segment 1	52.80	26.40	26.40	-	-	39.60
Gini coefficient	0.2613	0.1241	0.1354	0.1373	0.1584	0.2388

Note: The alternatives A, B, C, D and E are explained in Chapter V.

Annexure 4Engel Function Estimates

of Function	Estimates					
	a	b	R <sup>2</sup>	SE	t	$\eta$
(d.f = 127)						
a + bx	-0.05	0.0097	0.288	0.0014	7.16	1.006
a-b/x	19.87	-7462.8	0.316	976.47	7.64	1.035
a+b log x	-63.73	25.123	0.350	3.039	8.27	3.003
Y = a+b log x	-3.39	1.428	0.605	0.1024	13.95	1.429
Y = a-b/x	1.42	-465.16	0.656	29.954	15.53	0.534
d.f = 89)						
a + bx	2.868	0.0054	0.106	0.0033	1.65	0.696
2. Y = a-b/x	29.27	-18990.6	0.553	3563.8	5.33	1.646
3. Y = a + b log x	-37.24	15.360	0.143	7.838	1.95	1.622
4. log Y = a + b log x	-3.31	1.358	0.483	0.2927	4.64	1.358
5. log Y = a -b/x	1.29	-459.6	0.548	98.27	4.68	0.377

Note : y = Per capita expenditure on metal utensils

x = Per capita total expenditure (PCE)

R<sup>2</sup> = Coefficient of multiple determination

SE = Standard error

t = The statistic 't'

$\eta$  = Expenditure elasticity

estimates are based on individual household level observations.